

MANUFACTURERS RECORD

DEVOTED TO THE UPBUILDING OF THE NATION THROUGH THE DEVELOPMENT OF
THE SOUTH AND SOUTHWEST AS THE NATION'S GREATEST MATERIAL ASSET

Trade-Name Registered in the U. S. Patent Office

BALTIMORE, FEBRUARY 7, 1918.

{ \$5.00 A YEAR.
SINGLE COPIES, 15 CENTS.

LXXIII, No. 6.
WEEKLY.

PUBLISHED EVERY THURSDAY BY THE

MANUFACTURERS RECORD PUBLISHING CO.

RICHARD H. EDMONDS, Pres. VICTOR H. POWER, Treas.
FRANK GOULD, Vice-Pres. I. S. FIELD, Sec'y.

RICHARD H. EDMONDS, Editor and General Manager

BRANCH OFFICES

NEW YORK, 52 Broadway CHICAGO, 919 Fisher Bldg.
BOSTON, 733 Old South Bldg. ST. LOUIS, 608 Century Building

Subscription \$5 a year (payable in advance) to United States, Mexico, Cuba, Porto Rico, Hawaii and the Philippines. To Foreign Countries (including Canada) in the Postal Union, \$7.50 a year.

Entered at the Baltimore Postoffice as second-class matter.]

In order to avoid delays, all correspondence pertaining to news or advertising matters should be addressed directly to the Manufacturers Record, Baltimore, Md., and not to individual editors, officers, employees or any such office.

ANONYMOUS LETTERS AND COWARDS SYNONYMOUS.

ANONYMOUS letters from cowards afraid to sign their names are never published in the MANUFACTURERS RECORD. None but cowards write such letters. They go to the waste basket, where they belong, and the writers should be sent to the dump heap of human cowardice, where they belong.

FOR KAISER WILHELM'S CONSIDERATION.

Let the smith wear the fetters which he himself made.—Ausonius.

The greatest chastisement that a man may receive who hath outraged another is to have done the outrage; and there is no man who is so rudely punished as he that is subject to the whip of his repentance.—Seneca.

That is the bitterest of all—to wear the yoke of one's own wrongdoing.—George Eliot.

There is no law more just than that which has ordained that who plots another's death, in his own toils shall die.—Ovid.

LETTERS OF COMMENDATION.

FROM its readers in all parts of the country, the MANUFACTURERS RECORD is in receipt of so many letters of appreciation and commendation of the work that we have found it impossible in recent months to give space to them. Every letter of this kind only serves to increase the realization, on the part of this paper, of the responsibility which rests upon it. These letters do not increase our pride, but they do greatly increase the sense of duty, and our inability to measure up to the standard so generously accorded. If space should, at any time, permit the publication of these letters, we will do so, not at all for the purpose of commending the work of the MANUFACTURERS RECORD, but only because they indicate that the position which this paper has taken on public questions is being appreciated by the serious-minded business men of the country, and because many of these letters make suggestions of value to the nation.

Constructive Work Which Has Followed Criticisms and Senatorial Investigation Means Fuller Development of America's Power for Winning the War.

IN their weekly financial review, Bache & Co. of New York, commenting upon the splendid record made by the American navy, which, in co-operation with the British navy, has helped to retard or defeat Germany's submarine plans, say:

How does this successful administration of the navy come about when at one time Secretary Daniels was perhaps the most criticised of any member of the Cabinet? It is because Mr. Daniels has seen the light and has wisely delegated to the most competent officers in the navy the actual work of administration. He has been broad enough to see that so only could prime results be reached. He is one of the few in power who has comprehended this vital principle of executive success.

This heaven is working now in other quarters of the administration. The plan, widely adopted, of selecting men of the highest executive ability in various departments and giving them absolute power to decide and act will cut the barbed-wire entanglement in which Washington has been enmeshed. This week, in this line, a committee on shipping control has been appointed to direct the drive to supply the needs of our Allies in men, food and munitions, and in the allocation of all tonnage on both sides of the Atlantic. This is a small committee of three, and two of its members are veterans in the shipping business and in executive experience, Mr. Franklin of the Mercantile Marine and Mr. Raymond of the Mallory Line. The third member is Sir Cunnop Guthrie.

Moves of this character give effective recognition of the necessity to get America into the war at top speed and to bring about the closest co-operation with the Allies in the use of shipping.

What Secretary Daniels has done should be an inspiration to every department in Washington. But Secretary Daniels would never have been able to accomplish these almost miracle-like changes if he had not gathered around him the strongest men in the navy, without regard to personal feeling, and thrown upon them great responsibility while at the same time concentrating his whole life upon this task.

Criticisms were heaped upon Secretary Daniels, but he never showed any unwise irritation. He recognized that except those made by the liquor interests, when he banished alcoholic drinks from naval vessels, other criticisms had no venom in them, and that the critics were just as much interested in the success of the navy as he could possibly be. But we venture to say that had there never been any criticisms, Secretary Daniels and his coworkers would never have been so stimulated through every fiber of their being as to have accomplished the great things that have been achieved. To great men criticisms are a stimulant, and great men welcome them. To small men all critics seem enemies, and their criticisms are as gall and wormwood, and they hate the critics.

Under the criticisms heaped upon Secretary Baker by reason of the flip and irrelevant way in which he replied to the serious questions of the Senate Committee at the first hearing, he completely changed his methods at the second hearing. Indeed, at the second hearing he was like a different man. He had been suddenly called to a realization of the fact that flip and flippant words were not the things which this nation was willing to put up with in a period

of such supreme danger, and by reason of these criticisms Secretary Baker himself has tremendously changed for the better, and he is now gathering around him men who, unless tied by the red tape which still prevails, will work marvels in the War Department.

All that this nation is after, in whatever criticism may be made about the need of increased efficiency in Washington, is wholly to stimulate the vigor with which we shall press this war. No man in this country, unless he be a pro-German and a copartner with all of Germany's hellish activities, is criticising inefficiency in Washington from any other than the highest patriotic motives. This nation does not look to President Wilson as a Democrat; it forgets for the time being his politics, and it recognizes him as the President of the entire people, regardless of parties. It may not always approve of every move that he makes, and President Wilson is a big enough man, we are sure, to prefer that those who do not approve of all that is done shall openly say so. Only in this way can he and those surrounding him know whether the nation is entirely satisfied with the way things are going or not.

The changes that President Wilson has been putting into effect during the last few weeks in calling to his aid, through the strong men appointed to the War Department, through the organization of the committee on shipbuilding control, with splendid men in charge of that, are all typical of the things which are being done by him.

Had there never been any criticism in regard to the shipping board, Mr. Denman and General Goethals might still be at loggerheads, and the whole shipping work might still be halted by their inability to harmonize their views. It was public criticism which compelled a change, and every change which has been made in the shipping board has come about because the public insisted upon creating the greatest possible efficiency in that organization.

There is now rounding out in Washington a greater combination of forces for a co-ordination of all the vast potentialities of this country than we have had since the beginning of the war. We waited too long in getting ready; we wasted years when we ought to have been preparing for this great struggle, which was inevitable from the beginning; but there were men in the War Department who were not equal to the tasks, and criticisms upon inefficiency were intended originally for these men. One by one a number of them have been relegated to less important positions, and other men of superior ability are coming to the front. General Goethals may not have made a success in the shipping board by reason of the conditions there, but General Goethals as quartermaster-general is a tremendous step for efficiency over the conditions that were prevailing. Samuel McRoberts and Edward R. Stettinius are two of the ablest business men in America.

They have been called into the War Department's service, and the nation is infinitely the better able to prepare for war by reason of that fact.

The MANUFACTURERS RECORD criticised Secretary Baker because of the flippancy of his answers to the questions of the Senate investigating committee at the first hearing. It does not fully agree with Secretary Baker in the optimistic presentation which he made at the second hearing, but he vastly improved the opinion of the whole country by his deportment at the second hearing and his recognition of the seriousness of the situation.

We do not believe that any man has for a moment a right to reflect in the slightest upon Secretary Baker's utmost integrity as a man and as Secretary of War, even if the country did have a right to criticise the slackness with which many under-officials in the War Department were handling their jobs.

Many of the papers which are saying that Mr. Burleson has not measured up to his responsibility are at the same time saying that President Wilson must not in any way be embarrassed by the suggestion that he has not made the best possible appointments to all Cabinet positions. We do not agree with this lack of consistency. Moreover, we venture to predict that the criticisms of Postmaster Burleson will cause radical improvements to be made by him in all postal work. He would be less than human if he were not thus stimulated to overcome the things which justified these criticisms by so many leading papers. We believe President Wilson, whether he has succeeded or not to the fullest, tried to gather around him those he thought to be the strongest men at his command at the time when his Cabinet was formed, and no one can for a moment possibly question the fact that to the extent of his amazing powers he will now push the war with the utmost vigor; but we do believe that the atmosphere has been tremendously clarified by the way in which the country has insisted upon new methods and new men wherever needed to create a greater driving force to our war machine, and this determination has been the dominant note everywhere. Moreover, President Wilson is endangering his own life by undertaking to carry burdens which should be shifted onto strong shoulders of other great men. The health and the life of President Wilson under present circumstances are of such supreme importance to this country and to all civilization that any man who thinks of the bare possibility that he might break beneath the burden he is carrying and realizes what that would mean cannot but be startled at what might then ensue. Because of this fact many realize that for his own health and life, for the nation's life, for civilization's existence, President Wilson should gather around him the strongest men that can possibly be found and throw upon them many of the responsibilities for details of executive management which now claim too much of his own strength of body and mind.

Former President Taft is being universally commended for his vigorous work of co-operation in seeking to arouse the country to the war situation. Therefore, no one will charge Mr. Taft with saying aught that is not intended to be helpful, for throughout the country he is receiving unstinted praise for his patriotism. In the Philadelphia Ledger of last Thursday he takes the ground that by reason of the solidification due to Senator Stone's unwise speech, the munition department bill will probably not be passed. He adds a careful survey of the situation. No one in the country can possibly charge Mr. Taft with not being enthusiastically patriotic and enthusiastically active in upholding

the President to the utmost extent, while at the same time broad and patriotic enough to see every side of the situation. We commend Mr. Taft's statement, which, in part, omitting a few criticisms, is as follows:

Nevertheless, the agitation has done good. It has ended the long restraint of Congress and of the press, and has led them to a frank statement of the mistakes which have been made. The danger of Government "by intuition," in which official or expert sources of information are neglected or disregarded, has been pointed out. The open discussion has removed smug self-satisfaction, which made light of real faults and minimized the need for improvement in methods. We see this in the request of Secretary Baker to make an amplified statement to the Senate committee. We see it in the appointment of Mr. Stettinius, of the firm of Pierpont Morgan & Co., and a most competent man, as surveyor-general, with power to provide for the manufacture and purchase of everything which heretofore has been devolved upon four war bureaus. Stettinius is to act under Assistant Chief of Staff Pierce, in charge of purchases. What we may hope is that power is now really delegated to Goethals as quartermaster-general, to Stettinius as surveyor-general, to Hurley in charge of shipbuilding, to make broad plans for what is needed and to carry them out.

The delay in getting ready rifles, machine guns, field and heavy artillery and other equipment has been properly emphasized. The delay in shipbuilding has not been too severely attacked. The shortage in clothing in many camps perhaps deserves notice. But the individual cases of hardship in neglectful and medical hospital treatment are not a fair basis upon which to rest a wholesale arraignment of the War Department.

The greatness of the task of the raising of an army of 1,500,000 men should not be lost sight of. The selection of sites, the construction of the cantonments, the organization of the draft, the vast detail of transportation, the feeding of the army, all these things have been done, and done well.

Mr. Baker's second statement was much more satisfactory than his first. His manner was much better. He had been chastened by public criticism. His appeal to the committee for helpful suggestion and co-operation was in far different vein from that of his first statement. He made a much better case in detailed explanation of the size and difficulty of his task.

We must, however, take his statement that we shall have 500,000 men in France early in 1918 with some qualifications. Does he mean fighting men or does he include engineers, artificers, railroad men, stevedores and foresters? Do the latter classes not make up more than half of those now there? Does he mean that the American soldiers now in France and those arriving in the spring of 1918 will be ready to go into the trenches and on to the front line for the spring campaign? Information given by experienced army officers just from the front is that much more training and more discipline are needed for our troops now on the other side. If that be true of the American army in France early this year, will it not be equally true of the million or more men the Secretary hopes to have ready for embarkation during 1918? The Secretary has a love of well-rounded, encouraging statements which return to trouble him.

Nevertheless, it is only fair to say that Mr. Baker's address to the Senate committee has produced a favorable impression and has softened the asperity of the feeling aroused against him and the administration. If now the President and he can only devise a means, in whatever form, of achieving the purpose the Senate committee has had in formulating the war council and the munitions bills, real progress will have been made.

HEAVY MACHINE TOOLS AND COAL PRODUCTION AS VIEWED BY EXPERT ON BOTH.

CHARLES E. HELLIER of Boston, long identified with mining and industrial operations, in a letter to the MANUFACTURERS RECORD, says:

With reference to the whole war situation, I find myself feeling pessimistic. The more I am in Washington the more I am convinced that the proper organization is not being perfected to bring about the necessary war preparations. A few good men with absolute authority will accomplish more than ten times as many men of even greater ability with divided authority. There is one matter that I do know a great deal about, because I have been giving it much of my time and attention during the past two years, and this is the matter of heavy machine tools. The railroads and the shipyards have heretofore been the chief customers of heavy machine tools, and their business has been so poor that they have not bought freely, and the plants which were prepared to turn them out have not prospered. The result is that the facilities for producing heavy machine tools are more limited than any other line, and something has got to be done to increase the output materially. No one in Washington is willing to take the re-

sponsibility of advising the Government's assistance financially, and the past showing of the companies is such that the bankers do not look upon the matter as a sound investment proposition, but they will never be able to obtain the machinery for the ships or the big guns for the army and navy, nor will they be able to rehabilitate the railroads until this is done.

In a later letter Mr. Hellier, referring to the statements in his former letter about heavy machine tools, says:

The situation is serious enough, and unless it is remedied the country cannot get out of the slough it has gotten into.

I am working as hard as I can to get the men who have had the most experience and are the most successful in producing heavy machine tools at work in the plants that are available. Certain old plants can be rearranged and adding new equipment be made to double and finally quadruple the output. This cannot be done without the help of the Administration. As you know, I am not a critic, but my work is constructive work. Such success as I have made comes from selecting the most experienced men whose judgments are sound along the line of the work they undertake and who also know the men to help them get results. Nothing can be accomplished in this world by amateurs and tyros. This crisis needs the best ability in every line of endeavor applied with the greatest possible energy and efficiency. Even now all such effort is handicapped through the breakdown in the transportation system of the country.

Our mines in Kentucky, which are, as you know, highly and efficiently developed by Mr. Mitchell, an expert of the highest and greatest experience and success, are now idle most of the time, and his splendid efforts are counting for nothing owing to the fact that we have a pitifully inadequate supply of railroad cars. This experience is now almost the common experience of everyone engaged in mining and manufacturing throughout the length and breadth of the United States. The situation is desperate, and I fear that it is going to be harder to remedy and take a longer time than it has taken to create the confusion which has caused it.

I am now preparing facts in the heavy machine tool matter, and expect to be able to present them concretely backed up by adequate evidence to Mr. McAdoo. There must be someone with power to act and apply the necessary remedies to the situation.

THE MANUFACTURERS RECORD NOT "A PARTY ORGAN."

NOW this journal may be a friend of the administration, a good old-fashioned Democratic organ. But if that is the way to win the war it will take a long time to do it, and the road will be long and weary.

Edmonds' success has evidently made him believe that his voice is such that he has become a Northcliffe of America. He is mistaken. And we take this occasion to say to him, speaking for a journal not as powerful by far, only a small journal tucked away in a town in Florida, but with a voice as honest as his, and out of a motive quite as pure, that his course—judged from an unprejudiced man's viewpoint—is wrong, and we hope he will see the error of his way.—The Daily News, "Official City Newspaper," Tarpon Springs, Fla.

The News is correct as to the MANUFACTURERS RECORD being "a friend of the administration," but the MANUFACTURERS RECORD is not and never was "a good old-fashioned Democratic organ." Far be it from us ever to be an organ for any party or any organization on earth.

The MANUFACTURERS RECORD, for 35 years this February, has never suited people who love "organs," because it has during that time had absolutely no party affiliations and has independently expressed its own views for or against men or parties to such an extent that neither party would seek to claim it as an "organ."

That, of course, is a position which "official newspapers" can never comprehend.

The MANUFACTURERS RECORD has no aspirations to be a Northcliffe. It is not puffed up by any success. It is simply doing the best it can to honestly state the case as it sees the situation, and nobody on earth knows its shortcomings and its failures as much as its own editor.

It is a friend of the administration, it is a friend of our soldiers, it is a friend of our Allies, it is a friend of all men doing right, but it is not an "organ" of anybody or any party. It is merely an every-day, ordinary sort of newspaper trying to do its duty and without any higher aspiration than that.

Does this suit our Florida critic?

THE SOUTH'S GREAT PRODUCTION OF FOODSTUFFS OFTEN MISUNDERSTOOD.

The final crop returns for 1917 show a net increase of corn production in that year over 1916 of 592,000,000 bushels. Of this gain, the South, excluding Texas and Oklahoma, in which there was a decrease, had 319,000,000 bushels, or largely more than one-half of the increase in the corn production of the whole country.

The corn crop of the South, Texas and Oklahoma included, was 1,182,868,000 bushels. Owing to the severe drouth in Texas and Oklahoma there was a heavy decrease in those States, notwithstanding an increase in acreage. Had it not been for this unprecedented drouth, the South's corn increase would have been very nearly three-quarters of the total corn increase of the nation.

The total production of corn, wheat, oats, barley, rye, buckwheat and rice in the South in 1917 amounted to 1,564,671,000 bushels. The production of these grains in the South for 1917 and 1916 compare as follows:

PRINCIPAL GRAIN CROP OUTPUT IN SOUTH, 1917 AND 1916.

Product.	1917, Bushels.	1916, Bushels.
Corn.....	1,182,868,000	935,301,000
Wheat.....	145,202,000	123,501,000
Oats.....	198,703,000	171,447,000
Barley.....	1,268,000	1,268,000
Rye.....	3,738,000	3,179,000
Buckwheat.....	2,214,000	1,614,000
Rice.....	30,678,000	37,439,000
Total South.....	1,564,671,000	1,273,749,000
Total Rest of Country.....	4,155,795,000	3,465,027,000
Total United States.....	5,720,466,000	4,738,776,000

Moreover, the South raised 37,166,000 bushels of kafirs, or grain sorghums or milo maize, which really should be included in the statistics of grain production, and which would make a grain crop, including kafirs, of over 1,600,000,000 bushels for this section.

The peanut industry has been developing with amazing rapidity, adding largely through peanut butter and peanut oil to our supply of fats. The crop in 1917 was 60,222,000 bushels, valued at \$105,950,000, as compared with an output in 1916 of 35,324,000 bushels, valued at \$42,462,000.

The total value of all farm products, including crops and meats, in the South last year was in excess of \$7,000,000,000.

The total value of the cotton crop, including seed, was in round figures about \$2,000,000,000, leaving \$5,000,000,000 as the value of foodstuffs and feedstuffs.

The value of the cotton crop products, from the viewpoint of foodstuffs and feedstuffs, is not yet generally recognized, although its importance has been constantly reiterated by the MANUFACTURERS RECORD and other publications. The value of cottonseed products for foodstuffs and feedstuffs at present is about \$350,000,000 or more a year, and any decrease in cotton production would be disastrous from the viewpoint of foodstuffs and feedstuffs, even without regard to the vital importance of the lint in industry and for war purposes.

While it is of the utmost importance that the South should raise its foodstuffs, this section is often criticised and sometimes berated unjustly as though it was a "slacker" in food production. Secretary McAdoo recently, following the line of thought so erroneously advanced last spring by the Department of Agriculture, rather indicated a spirit of criticism against the South for needing to use transportation in bringing foodstuffs from other sections. Secretary McAdoo's intentions were thoroughly good, because the production of food can be still further increased in the South, but it would have been fairer to this section and would have helped the nation to understand what the South is doing if at the same time he had with equal emphasis advised every other section to raise all of its own foodstuffs, and if he had called attention to the fact that the West and the North

depend upon this section for more than \$200,000,000 worth of potatoes and vegetables and fruits and other products of this kind. Now, it is true that a wise political economy makes it profitable for the South to raise foodstuffs of this kind to be shipped to other sections which cannot grow such early produce, but the same wisdom makes it wise for Florida, for instance, to buy its flour from other sections where wheat can be produced to much greater advantage than in Florida. It would be a waste of time and energy and a loss to the nation to undertake to raise wheat in Florida for its needs merely to relieve the use of transportation from the West to that State. If the South is to be warned that it is not doing its duty to the nation because it brings some foodstuffs from other sections, then other sections should be warned that they are falling short of their duty when they use hundreds of thousands of carloads of the South's fruits and vegetables, the South's cottonseed oil and meal and the South's cotton and sugar.

A great deal of the misunderstanding of wise economy in national development is often brought about by loose thinking on the part of those who do not carefully study all phases of a business situation. Some years ago, for instance, when the time had not come for a large and profitable development of steel making in Birmingham, that State was vigorously berated sometimes by its own people, taking their cue from others and sometimes by so-called political economists of other sections, who criticised Alabama for shipping pig-iron to other sections and in return buying locomotives and steel made elsewhere. All healthy development work must be an evolution and not be forced by unnatural efforts, and at that time the condition did not justify large steel operations in Alabama.

The South is steadily increasing its food production, far more rapidly, indeed, in proportion to population than other sections. It is growing less and less dependent upon other sections for foodstuffs, while many other States are growing more and more dependent.

Secretary McAdoo might, for instance, have called attention to the fact that California, with its splendid wheat-growing soil, falls short in its annual production by more than 9,000,000 bushels of its wheat requirements, and great transportation is needed in carrying wheat into California. But we do not believe Secretary McAdoo or any other official ever suggested to California that it should raise its own wheat in order to save transportation. There are a number of other States in the West known as wheat-growing States which do not raise enough wheat for their own needs, while the South is steadily and rapidly increasing its production of wheat in proportion to its population.

A better understanding of the mutuality of interests in the broader development of all sections and of trade between all sections would be of very great value to the advisers of the South who, while sometimes giving good advice, could with equal appropriateness give similar advice to other sections and thus not create the impression throughout the nation that the South is a "slacker" in food production and dependent upon other sections, when, as a matter of fact, it is in the aggregate contributing more to other sections of agricultural products than it gets back from other sections. In the matter of wheat, for instance: There was an increase in the South last year of 21,700,000 bushels over the production of 1916, while in the rest of the country there was a decrease of 7,200,000 bushels in wheat production. The South increased its wheat acreage in 1917 over 1914 8.5 per cent., but the rest of the country, outside of the South, notwithstanding the urgent appeals for more wheat, actually planted 7,724,000 acres, or 17.8 per cent., less in 1917 than in 1914. Which is the greater slacker, the South with an increase in wheat acreage of 8.5 per cent., or the rest of the country with a decrease in wheat acreage of 17.8 per cent.?

The four Western States of Illinois, Michigan, Wisconsin and Iowa produced last year 16,000,000 bushels less of wheat than their actual consumptive requirements, but we have not seen any Government official criticising these States for using transportation in order to haul wheat in from other wheat-growing States.

In the entire South the wheat shortage as compared with its pro-

duction was 31,000,000 bushels, or but a little more than the combined shortage in the great wheat-growing States of California, Illinois, Michigan, Wisconsin and Iowa. There is much unutilized land in New York State, for instance, which could be put into wheat cultivation, and yet New York consumed last year 43,000,000 bushels more wheat than it produced, a deficiency far greater than that of the whole South. Even Illinois, counted one of the great wheat States of the Union, was short in its production as compared with its own requirements of 6,000,000 bushels. Moreover, and an important thing to be considered, none of these States is a producer of cotton, the value of which to the nation is absolutely priceless for its lint, for its oil and for its cottonseed meal and hulls.

Every section has some peculiar advantage for agriculture, and in every section its own advantages should be utilized to the utmost possible extent. It would be folly for Florida to undertake to raise all of the wheat which its people consume, so it would be folly for Massachusetts to try to raise the cotton which its mills require. There must be an adjustment of these things based on natural lines and natural advantages. Any suggestion, therefore, that one section is a "slacker" and does not deserve transportation because it does not produce all of the things which it needs is very much out of place, especially from a Government official, just as much out of place, for instance, as it would be to denounce California for not raising all of its wheat or for denouncing Michigan and Iowa and Illinois because they do not raise all of the wheat they need.

Michigan, Wisconsin, Minnesota and South Dakota are considered great corn-growing States, but as compared with the South they are rank slackers in corn growing. Alabama, for instance, produced last year twice as much corn as Michigan. North Carolina produced 18,000,000 bushels more corn than Wisconsin, Georgia raised 30,000,000 bushels more than Wisconsin and Kentucky 32,000,000 bushels more than Minnesota and 25,000,000 bushels more than South Dakota. Let us compare, for instance, the production of corn in

Michigan, Wisconsin, Minnesota and South Dakota with the production of corn in four of the pre-eminent cotton-growing States of the Central South, and we have the following:

CORN PRODUCTION, 1917.

FOUR WESTERN STATES.		FOUR COTTON-GROWING STATES.	
	Corn, Bus.		Corn, Bus.
Michigan.....	37,625,000	Alabama.....	77,200,000
Wisconsin.....	42,196,000	Georgia.....	72,000,000
Minnesota.....	90,000,000	Mississippi.....	84,050,000
South Dakota.....	97,150,000	North Carolina.....	60,000,000
Total.....	266,971,000	Total.....	293,250,000

Thus these four pre-eminent cotton-growing States, concentrating their energies largely on cotton, produced, almost as a by-product, 26,279,000 bushels more of corn than the four pre-eminent grain-growing States named.

The MANUFACTURERS RECORD would in every way possible seek to intensify the diversification of Southern agriculture as it has done for many years, and we would continue to urge this section to produce still more of corn and meat that not only may it be as a whole the cotton center but the grain and meat producing section of America, as it can become. We would, however, at the same time protest as in the past against the criticisms constantly leveled at this section as though it was a food-producing slacker almost dependent upon other sections and a burden to the nation's transportation interests because it uses cars to bring some foodstuffs from elsewhere. Officials who promulgate these statements seem to forget the vast number of cars used in carrying Southern farm, factory and mine products into other sections which never call forth any criticism of other sections for using this transportation in order to supply themselves with Southern products.

WHERE THERE ARE MORE WORKERS THAN WORK.

Tampa, Fla., January 10.

Editor Manufacturers Record:

I see in some of the papers that the Government is short on men to build ships and various other kinds of work. Why is it? I am located here at Tampa for the present, and have been trying to get a job with the shipbuilders here, but so far have failed, and I see many others in a worse fix than I am.

I was at Arcadia, and there were men stranded there and had to walk out. I have been a house builder for a number of years, but since we have entered into the war I have had to let my men go. Now, I would like to do what little I can to help on with the good cause.

If you can furnish the information as to where to get in you would confer a favor on a number of honest toilers.

Why not bring the work here, where there is lots of room, lots of men, and the weather is such that the men could work to a better advantage?

Since writing the above I have read an article in a reputable paper stating that one firm could use 5000 more men had they the housing facilities. Now, why waste the time and money building more houses, and why concentrate so many men in one place, endangering health and life?

There are hundreds of empty houses here that are a loss to the owners for the want of paying tenants; there are lots of idle men for the want of places of occupation; there is lots of room here; the transportation facilities are good; the climate is all that could be desired; the living is as cheap as other places; there is an abundance of productive land, if put to use, to feed the people. So I would like to know why this concentration of men and wealth, causing a greater risk to both?

W. M. WEST.

In reply to an inquiry seeking further information as to the available supply of labor on the West Coast of Florida, Major D. F. Conoley of Tampa, in a letter to the MANUFACTURERS RECORD, writes:

J. L. McGucken, head of the Tampa Dock Co., which is now building four wooden vessels, advises me that another yard adjoining its plant could very readily find enough labor to care for four more boats like those his company is building. He is trying to employ local men first, but finds there are numbers of men coming here from the surrounding territory looking for work, and that there is quite a number of men from colder climates farther north who want work while here, and from them he thinks they could find enough to handle another yard as large as the present one.

There is available close to Tampa an ample supply

of pine timber for all parts of the boats except the larger-sized timbers. These are hard to find anywhere, and the Government has to supply them from those States where they can be found to all the shipyards except those in Mississippi.

Here and there through the South there is a decrease in building activity, and it is doubtless true that at many points, as on the West Coast of Florida, a considerable amount of labor not now well employed could be profitably used in shipbuilding. This situation should be investigated by the Government with a view to keeping these men in the South, and not with a view to transferring them to other sections. Indeed, a very large number of laboring people seeking to escape the hardships of Northern winters would gladly come into the South if assured of regular work in shipbuilding yards. The South has not yet reached the limit of its potentiality in the building of ships.

THE DIFFERENCE BETWEEN THE EFFICIENCY OF "BIG" BUSINESS AND THE INEFFICIENCY OF WAR DEPARTMENT METHODS.

A GOOD reply to the suggestion of some people that we must make no change in the War Department because some other Secretary might fail is found in the following from the New York Tribune, discussing the difference in business methods between the efficiency of big business and the non-efficiency in evidence in many places in Washington. The Tribune said:

When a great private banking house in Wall street became the fiscal and commercial agent in the United States for England and France and undertook to procure for those countries neutral credit and American merchandise on a scale never previously imagined in finance or trade, how did it approach the job? Happily, the record is finished.

The bankers said to themselves: "There are two things here. One is credit. That is our business. The other is merchandise in such quantities that only a genius will be able to carry off the negotiations and procure the goods without making a great economic disturbance. That is not our business. Let us find the

right man and give him full control of the buying end of the undertaking."

They found Edward R. Stettinius, took him into the firm and turned over to him the job of exchanging several billion dollars of Anglo-French credit for merchandise. He was the right man. But if he had been the wrong man the bankers would only have said: "Our judgment failed. Let's find another man."

That is as business does it. That is what is called business intelligence.

When the War Department, after nine months of calamitous misadventures with the industrial machine, is warned by public clamor to contemplate the co-ordination of its five purchasing bureaus, what does it do?

It finds the same Edward R. Stettinius and gives him the title of Surveyor-General of Supplies and announces that the problem is solved. The War Department's buying henceforth will be conducted in a rational manner.

Those who know both the Government and Stettinius on hearing the news say: "Poor Stettinius!"

The very next day a debate begins as to what authority Mr. Stettinius has in the War Department. First it is understood that he has authority over all purchasing bureaus. Then it is discovered that he has only equal or co-ordinate authority with the purchasing bureau heads. Lastly, it is doubtful whether he has any authority at all, except that of reporting to Mr. Baker.

If the director of purchases disagrees with the surveyor-general of supplies neither may upset the other, but both may go to the Secretary of War for a decision as to which of them is right in a technical question touching the acquisition of merchandise for the War Department.

To what is called business intelligence it seems hopeless.

To Mr. Baker's type of intellectual intelligence it doubtless is very baffling. He gets the very man and gives him a large name, and still it doesn't work. Though he had all the men, it still would not work. Anyone can take the parts of a watch and shut them up in the case, but only a watchmaker can put the parts in such relation to each other as to produce a mechanism that will keep time.

This is not a riddle of men that has bedeviled Washington.

It is a question of method.

What a really great commercial negotiator could do for a private banking house in Wall street, for England and for France he cannot do for his own Government.

Why? Because the Government itself has not what we call business intelligence and distrusts it in its own citizens.

We Have Been Justified by Events.

[Extract from President Wilson's speech to Congress
December 7, 1917.]

"We must face the facts as they are and act upon them without sentiment in this stern business."

"If I have overlooked anything that ought to be done for the more effective conduct of the war, your own counsels will supply the omission."

In 1915, when the MANUFACTURERS RECORD was doing its utmost to arouse the nation to the need of preparedness, the Charlotte News was one of the many papers in the country which vigorously criticized our position and insisted that there was no need for anything additional in the way of preparedness than what we then had. The News was voicing what it believed to be the true condition of affairs and its view was in harmony with the position which had been taken by President Wilson before Congress and which was very largely held by members of the House and Senate. The late Congressman Gardner was one of the few vigorous exponents at that time of the need of preparedness.

The Charlotte News, like all others, who were then criticizing our incessant demand for preparedness, now, of course, realizes the mistake which it was then making. With equal honesty of purpose, but, we think, with equal error of judgment, the News now takes issue with the MANUFACTURERS RECORD in regard to its criticism of Secretary Baker. It says, "conceding that a newspaper has perfect right to criticize Government officials, it cannot be conceded that any newspaper has a right to thrust such a demand in the face of the President when a member of his own official family is involved," and, in closing its editorial, it says:

No man will hold that the stand taken by the MANUFACTURERS RECORD is dictated by other than an intense love of country and zeal for a successful prosecution of the war. The motives of Mr. Edmonds can not be impugned by any who know him and he is known from Coast to Coast for the virility of his loyalty. The only issue is an issue of expediency. He has interpreted affairs and appearances of affairs from under a light that is somewhat artificial, as we look at it. Our quarrel with him is only that he seems to violate the ethics of expediency and not that his error is more fundamental than this. Common judgment would dictate that a newspaper with such a tremendous influence as the MANUFACTURERS RECORD, through whose pages such a lustrous personality as abounds in its editor shines with marked consistency—an organ of this character ought to be all the more jealous of its conservatism.

With the position of the News that a newspaper has not a right to urge upon the President a change in his official family, we entirely dissent. The President of the United States is the servant of the nation in the sense that the Bible teaches service. He is not an autocrat, nor would President Wilson claim to be an autocrat. President Wilson is today the world's highest exponent of mankind's desire for democracy. In this respect he voices the deep desire of men everywhere, and for this he should have the enthusiastic praise of all lovers of mankind.

But that the nation could not ask for a removal of a member of the Cabinet would be entirely contrary to the spirit of our Government.

Many great business failures have been due to the unwillingness of stockholders to criticize officials, even though they saw that they were making mistakes in management, and, therefore, they have permitted inefficiency ultimately to ruin their property and carry it to bankruptcy because they did not assert their rights to insist upon a change when things were not going well. Every citizen in America, every father and mother whose sons have been called or will be called to risk their lives in battle for the nation has a right to know if all is well in our affairs and to say that if there is in-

competency it shall be supplanted by efficiency, it matters not who may be hurt in the change.

Any thought that the nation should not criticize where inefficiency is found would mean the ultimate destruction of the country. Criticism has already done great good. However much the man who is criticized may object, he knows that it stimulates him to greater things, and he knows that his struggles to find out whether there is any justification for the criticism brings about many changes for the better. And this has happened in the War Department. Some of the radical innovations which have been introduced within the last week or ten days by the War Department are for the betterment of that department, but had there never been any criticism many of these changes would never have come about. Had there been no newspaper criticism and no Senatorial investigation the country would have been lulled to a false sense of security by the erroneous reports that were being sent out from Washington to the effect that all was well when all was not well.

This point is illustrated in a letter from a very intelligent investigator of the situation in Washington who knows the ins and out of every Department. Writing under date of January 27 to the MANUFACTURERS RECORD, he said:

"I have been burrowing into the ordnance situation, as well as the Quartermaster's Department, and I think that Goethals is on the right track and that General Wheeler, now head of the Ordnance Bureau, and Col. Samuel McRoberts, head of the procurement division, have demonstrated the inefficiency of their predecessors. In the two weeks these men have been on the job, they have brought about very large results."

In addition to these two changes made in the War Department, was the appointment of Mr. Stettinius, another man of exceptional business ability. Thus the War Department has in the last two weeks radically changed for the better its entire management of some of the things which needed such severe criticism. Had there been no criticism the country would not have been awakened to the need of these radical changes and they might never have been made.

And it is only where criticisms are made, when justified, that we can expect to see efficiency supplant the red tapism of inefficiency which was so seriously hampering the nation and causing the death in camps of hundreds of men whose lives might have been saved had there been no inefficiency so great that it was patent to every man who cared to investigate.

The Charlotte News, while criticizing the MANUFACTURERS RECORD because it called the President's attention to the incompetency that was prevailing may be reminded of the fact that in all good faith that paper more than two years ago vigorously criticized our position in the fight we were making for national preparedness. About the middle of November, 1915, when the MANUFACTURERS RECORD was doing all in its power to awaken this nation to the need of preparedness the Charlotte News said:

Is anyone so deluded as to fancy that America is in danger of attack from a possible European foe in the next half-century?

It took the South 40 years to recover from the shock of a war which did not murder men with gas bombs nor blow up whole cities with the modern agents of war.

Does anyone think that an almost bankrupt Europe, the flower of her manhood buried under improvised mounds, her resources taxed to the last extremity and her credit stretched almost to the breaking point, could afford, if occasion came, to wage war upon a nation

whose natural advantages is worth more than the armies of Germany or the navy of England?

To that the MANUFACTURERS RECORD replied that the News in its love of peace had overlooked a great many essential points, and we pointed to the record of what had been done during the preceding 18 months in Europe as a proof of the need of preparedness that we might be saved from the destruction which had come upon Belgium.

The News, returning to its criticism, gave the MANUFACTURERS RECORD credit for being in "deadly earnest," but it claimed that there was no need for additional national preparedness and, among other things, it said:

And yet, horrible as this war has been, has it not taught the almost impossibility of invading the territory of any of the larger nations of the world? France, with all of her unpreparedness, was able to keep out of Paris, in fact, to thrust back many miles, an army which had been tutored and trained and perfected and provided with every ingenuity of destruction for 60 years past. For a solid year the mighty German war machine had tried to break through the French lines in the West. For many months this monster German machine tried to pierce through Belgium and reach the coast. But France, with her "untrained" army, has held the finished product of modern militarism at bay.

If the allied fleets of England and France and Italy and Russia have so far not dared to land troops on the territory of their common enemy because of the presence along its borders of adequate agencies of self-destruction, is it not a wilder dream than one emanating from a fool's paradise to suppose that either one or all of them could successfully conduct armies 3000 miles across water and attempt attack upon a nation favored by the Almighty with coasts almost impossible of invasion!

We believe that the News will now fully admit that the position which the MANUFACTURERS RECORD took in 1915 in urging preparedness upon the country against the views which then prevailed in Congress and on the part of President Wilson, have by the logic of time been proven correct. What we then said in regard to the unpreparedness of the country, warning the nation against the certainty of war and the death of soldiers which would come from lack of preparedness only illustrates the necessity which has prevailed of late in calling attention to the inefficiency that existed in many departments at Washington, where red tape methods tied the hands of men who saw the dangers we faced, but were powerless to meet the issue. We were not more certain in 1915 that national preparedness was vital to the nation's life than we are today certain that the inefficiency which has existed in many departments in Washington fully matches the unpreparedness which existed in 1915. At that time the MANUFACTURERS RECORD had to go against public sentiment, against the views of the Administration, and against the views of a majority of our readers. Again it has had in its fight against incompetents to go against the views of many. But the proof of the necessity of doing so has already been found in the changes which public criticism and Senatorial investigations have brought about in the War Department to the very great benefit of our war-winning ability.

It is well in this connection to repeat a statement made by President Wilson in his address to Congress in December last in which he said to the joint session of the House and Senate:

"We must face the facts as they are and act upon them without sentiment in this stern business."

"If I have overlooked anything that ought to be done for the more effective conduct of the war, your own counsels will supply the omission."

Was the MANUFACTURERS RECORD justified in insisting from early in the European war that national preparedness was supremely important to this country?

HOW COAL PRODUCTION CAN BE MADE TO EQUAL OUR NEEDS.

THE MATTHEW ADDY COMPANY.

Cincinnati, Ohio, January 25.

Editor Manufacturers Record:

For the past month the coal situation has been growing steadily worse. In the coal districts, where liquor is obtainable, every pay day is followed by three or four days of drunken idleness. Of course, the liquor men are on the run. War in its pitiless and thorough analysis has left the liquor interests not an argument. Nevertheless, I am glad to see that in season and out of season you keep hammering away on the side of prohibition.

I was talking the other day to one of the most prominent distillers in America, a far-sighted man, who believes that within three years the country will be absolutely dry. Says he has made his last barrel of whiskey. He told me that the advance in the price of whiskey—you know it more than doubled in price—was so great that he had made a profit from the whiskey in stock large enough to allow him to scrap his plant, and still be ahead of the game. The whiskey men have been howling about confiscation and asking for remuneration in case they were put out of business. You may safely make the point that the whiskey people by the war prices have made such unexceptionally large profits that they can afford, if necessary, to throw their plants away, and still they will not be the loser. As a matter of fact, of course, most of their plants can be turned to honest use.

JAMES A. GREEN.

The coal operators of the country have appealed to President Wilson to prohibit the sale of alcoholic drinks within five miles of every coal mine and coke oven plant in the country. They have promised that if this is done as a war measure they could produce all of the coal needed for the country's needs.

At a meeting held in Pennsylvania several months ago of 1700 or more coal operators from all parts of the country, a resolution to this effect was unanimously passed, but nothing has as yet been done to put into effect this appeal from the coal operators who of all others should know best how to increase the production of coal.

They have said in effect, "give us prohibition and we will bring about increased coal output." But they have as yet appealed in vain.

Bearing on this question is the letter from Mr. James A. Green, president of The Matthew Addy Company of Cincinnati, one of the leading iron, coal and coke handling concerns in the country, quoted at the head of this article.

Mr. Green presents an interesting statement in calling attention to the fact that the law which prohibited the further production of whiskey has doubled the price of whiskey in stock, thus enormously enhancing its value and enriching the whiskey people. Without having to bear the increased cost of production due to the rising cost of materials, these men see their stock in hand, made years ago out of low-priced material, double in value. They have not been interfered with in the handling of their product and they are still using transportation, so sadly needed for coal and other things, for the handling of whiskey, the use of which lessens the production of coal and in many other ways costs the country in money and lives.

Another letter, dealing with the same question comes from Mr. J. Norman Wills, secretary and treasurer of the Odell Hardware Co. of Greensboro, N. C., who writes:

You are eternally right about a great many things, no doubt. What I now have in mind is your attitude toward the liquor question.

Of all times, this seems to be the time that the people—all of them—should have the information in regard to the waste of coal by the breweries, and in regard to what might be accomplished if a prohibition zone were established around the coal-producing centers.

Is there no way to give the facts to the people? All the religious papers would lend their aid, no doubt; many others would co-operate. I know of no way in which we could serve our country better.

The question of the elimination of coal and

materials from the brewery trade and of the prohibition as a war measure of all alcoholic drinks and thus the shutting up of the more than 100,000 saloons is a vital issue before the country. At least half a million men are now employed in the various activities of the liquor trade. These men would be used to a greater advantage to the nation and themselves in productive work rather than in destructive work. The Philadelphia Record, in a recent issue, said:

There is one phase of the coal situation to which comparatively little attention has been paid, but which is none the less deserving of consideration because of its influence on production. This is the working capacity of the miners as effected by the consumption of an unnecessary amount of liquor.

And then it refers to a dispatch from Pottsville, which shows that the Schuylkill County Court had on one day granted 1135 saloon, hotel and brewery licenses, while there were other applications to be passed upon. The Philadelphia Record figured out that this would mean an average license for a saloon or brewery of one to every 196 persons, including men, women and children in Schuylkill County, Pa. And it added:

Much the same conditions prevail in some of the other mining counties. How excessive this number of drinking places is may be seen from the fact that in Philadelphia there is one saloon for about every 1000 persons, while Schuylkill county has in proportion to population more than four times as many taverns as this city.

We believe that this is one matter, the remedy for which lies with the Fuel Administration and President Wilson. If the Fuel Administration has the power to close all the manufacturing plants and the schools East of the Mississippi in order to lessen the consumption of coal, surely it has the power to close the thousands of saloons in the coal districts which lessen the production of coal. Moreover, it would be entirely within President's Wilson's power, we believe, as a war measure to close every saloon in the neighborhood of coal mines and coke plants.

A number of coal operators in recent issues of the MANUFACTURERS RECORD strongly urged national prohibition as a means for increasing coal production. They took the ground that this would increase the output from 10 to 20 per cent. or more. Even an increase of 10 per cent. would give the country the full supply of coal which Dr. Garfield now says is the deficiency between the production and our consumptive requirements. The subject should be aggressively agitated and advocated as an economic measure even if for the time being we dismiss its moral side.

NO FRIENDS TO PUSH OR ENEMIES TO PUNISH—EXCEPT PRO-GERMANS.

THE Sentinel has great admiration for the MANUFACTURERS RECORD. It has rendered the nation valuable service in denouncing pro-Germanism and exposing the damnable hypocrisy and cruel practices of Kaiserism. Certainly we would not for a moment think that its criticisms of Mr. Baker have been inspired by anything but a patriotic desire for the best interests of the nation. We do think, however, that in its zeal it has hardly done the Secretary of War justice. Certainly the suggestion that the duties of Secretary of War be turned over to Colonel Roosevelt seems to us to be unthinkable. That gentleman has lost, through his constant "knocking," much of his great capacity for usefulness in this crisis.

The insistence in the Baltimore publication and in other quarters that a new Secretary of War be appointed at this time seems to us to be unwise, anyway. What assurance is there that a new man would handle the difficulties encountered better than Baker? There is not even anything like consensus of opinion among critics of the War Department as to who the new man should be. He would come in with the handicap of being out of touch with the processes of operation, and it would take him some time to "get his bearings." In the meantime, confusion would increase. It seems to us to be decidedly better for Mr. Baker to remain at the helm, profiting by the mistakes he has made and overcoming them in the future. That he is a man of ability is not doubted, and there is no reason to believe he would blindly refuse to change his course where experience has showed him the wisdom of doing differently.—Winston-Salem Sentinel.

In the foregoing the Sentinel takes the wrong

view, we think, of a great question, in asking what assurance is there that new men would handle the difficulties better than Secretary of War Baker. This is along the thought of some people that we must make no changes in business management for fear of making mistakes. Criticisms have helped to bring about radical changes in the War Department; had the criticisms never have been made, the same inefficiency would have continued, so far as the public can judge.

The argument of the Sentinel, if carried out in business life, would forbid any changes in the management of great railroads or industrial concerns, for fear that the new men could not avoid the mistakes which had been made by the former incompetent managers. If this line of argument had been followed in Great Britain incompetency would have continued to prevail, and Great Britain would probably before this, have had to surrender to Germany.

In the business world men must develop efficiency or make a failure. If a failure is made by a man who is managing a large industrial concern, it would, indeed, be unspeakable folly for the directors to continue that management for fear that a new manager would make the same mistakes.

If the Sentinel means to suggest that the MANUFACTURERS RECORD is advocating Colonel Roosevelt as Secretary of War, it is making a great mistake. We recently published a rumor, simply as a rumor, and so stated, that was being circulated in Washington that Secretary Baker might resign and his place be filled by Roosevelt. We did not say that such would come about, and we have no suspicion that Colonel Roosevelt will be called to any position in the Cabinet. Indeed, we rather think that Colonel Roosevelt and President Wilson are so diametrically opposite in nature in many respects that they would not form a good working team with Roosevelt in the Cabinet. We have suggested that Colonel Roosevelt should be put at the head of a department for handling the alien enemy question in this country, because that is one of the great problems of America, and, we believe, Colonel Roosevelt would admirably fit the situation, and the country would feel absolutely certain that there would be no weak-kneed methods of controlling our alien enemies.

We would like to see President Wilson get the very best co-operation immediately around him from every element of the country which could add to the strength of his Administration in carrying on the war. It is a strong man alone who is big enough to call to his services great strong leaders in such an emergency, without regard to whether they have been bitter antagonists in the past or not. Neither friendship nor former enmity in a political life, should for a moment, weigh at a time like this.

We appreciate the Sentinel's belief that the suggestion of the MANUFACTURERS RECORD in regard to Baker has been inspired only by patriotic concern for the best interests of the nation. The MANUFACTURERS RECORD has absolutely no other interest in the matter. It has neither friends to push, nor enemies to punish. Politics as politics are absolutely outside of its sphere; it has no other ends to serve in this matter than the welfare of the nation. It seeks only to help save the lives of our soldiers and the soldiers of the Allies and to save civilization. In pursuing that line of duty, it knows neither friend nor enemy, and the only people whom it classes as enemies are Germans, pro-Germans, and weak-kneed Americans who at heart are pro-Germans. It is fighting for efficiency only, so far as public men are concerned, and the greater the success that President Wilson can make of his Administration in pushing the war vigorously and aggressively, the more eager will it be to commend him, and those about him.

IRISHMAN'S DEFINITION OF OPTIMISM.

"OPTIMISM is an effort to believe something you know ain't so." Don't let the nation be optimistic that way about its war achievements. Let's achieve first.

A Move to Sectionalize the Country When Broad Nationalization Is Needed.

SOME months ago we published an interview with President Wilson, given at a time when he was Governor of New Jersey, in which he took very strong ground against the establishment of a zone system in postoffice work. In that interview Mr. Wilson clearly outlined the reasons why a zone system was fundamentally contrary to the genius of our Government and of the needs of the country. Nevertheless, at the last session of Congress a bill was driven through Congress in connection with the revenue bill, to which it did not belong, of a zone system for newspaper and magazine mail, which, if put into effect next summer at the time designated in the bill, would have a tremendous effect to sectionalize the nation rather than to broaden the nationalization of the country. This bill, apparently designed for the express purpose of limiting the circulation of national publications by putting a postage rate that was practically prohibitive beyond the first or second zones, would of necessity lessen the power for good of the broad national circulation of papers and magazines at a time when it is of supreme importance that the whole thought of the nation should be melted in the same great melting pot of nationalizing the spirit and life of the people into a homogeneous mass.

The bill was vigorously opposed by many of the most intelligent men in Congress, but under the whip and spur of political activities it was crowded into the revenue bill, where it did not belong, and in order not to delay the passage of that bill it was permitted to become a law, to go into effect on the first of July unless repealed.

This bill is directly against the reading public and the welfare of the nation. But as it relates specifically to the circulation of newspapers and magazines, the publishers of the country will be the first to feel its effect, and they are, therefore, urging its repeal.

At the time when it was first passed it was vigorously opposed in the Senate and House as an unnecessary measure and in no way whatever a taxation bill. But because it had been put into the revenue bill, and could not then be separated without halting its passage, its opponents had to yield and let it go through.

The Publishers' Advisory Board has issued a statement bearing on this situation to which we invite the thoughtful attention of all newspaper readers. In part it is as follows:

This committee, after a thorough investigation of the varied problems that have arisen in the whole publishing world as a result of the postal measure which was hastily jammed into the War Revenue Act at the last session of Congress, hereby submits the following report and recommendation:

The last Congress passed a law applying a zone system to the carrying of newspapers and periodicals. At the same time it introduced a complex system of classifying the postal rates whereby the postage on newspapers and periodicals has been increased from 50 to 900 per cent., according to the zones in which they are delivered.

The zone system means the destruction of national circulations of newspapers and periodicals, owing to the terrific cost to readers. This tremendous increase in postal cost by zones means the dividing of the country into sections, in which the interchange of thought and advance of progress between sections becomes difficult, and in hundreds of thousands of families impossible.

No more socially destructive law has ever been passed by Congress. It breaks down the access of the citizens of the nation to newspaper and periodical reading at a crisis in our national history in which the widest possible dissemination and discussion of ideas is necessary. It is a period when every stimulation and opportunity for energizing patriotism is of the utmost importance to our nation.

The urgent pleas of the Department of War and the Navy Department for the assistance of newspapers and periodicals in energizing the country, together with the appeals from the various commissions for newspaper and periodical assistance in spreading information as to the necessity of war economies, war needs, war loans and war aims, and the splendid results following that appeal, mark this action of Congress in persecuting news-

papers and periodicals as something to be deplored.

This destructive 50 to 900 per cent. increase law must be repealed on the broadest grounds of national necessity and national interest. The right of the citizens of this nation to have unthrottled access to current reading and intellectual progress, bulletined by our nation-wide press, must not be abridged under the subterfuge of postal legislation. The specific points to be kept in mind by publishers, and upon which all publishing interests, newspaper and periodical, can unqualifyingly unite, are set forth below:

(1) That the law increasing periodical and newspaper postage by a combined system in amounts of increased cost varying from 50 to 900 per cent. over the present rates should be repealed, especially at a time in our national history when a free press with its inspiration of patriotic ideals is of the utmost importance to the country.

(2) That the conditions under which this 50 to 900 per cent. periodical and newspaper postage increase was passed, i. e., jammed into the War Revenue Act when the Senate after full investigation and discussion had rejected it, and the House forced through passage after refusing hearings and discussion, mark it as one of the greatest and most destructive abuses of legislative power.

(3) That the rates therein laid down of from 1 1/2 to 10 cents per pound for published matter of varying kinds bears no relation to the cost of handling the same by the Postoffice Department, this being clearly proven by the fact that a private concern, i. e., the Wells-Fargo Express Co., will call for, ship and deliver farm produce from the same zones, over the same distance, at from 20 to 30 per cent. less than this law proposes to charge for clean, easily-handled and non-perishable periodicals and newspapers, the periodicals, moreover, being delivered to the postoffice by publishers, and in a vast bulk collected from the postoffice at the receiving end by private news distributing agents. In startling contrast with these figures, which are herewith presented, is the fact that the Wells-Fargo, on its charges, pays handsome dividends to its stockholders. Any assertion by Congress, therefore, that the charges under this postal law representing cost of handling is an absurdity.

Advertising page postage cost only is quoted—for the advertising pages make possible the periodicals. Reading pages have been increased 50 per cent. flat:

Low express rate per pound on perishable foods.	High U. S. Government rate per pound on clean, neat periodicals.
2 1/2 c. Butter or chickens.....	5 c.
3 1/2 c. Indiana to New York city:	
Eggs or chickens.....	6 c.
3 9-10 c. Wisconsin to New York city:	
Honey (per section).....	6 c.
(Approximately 1 section per pound.)	
4 6-10 c. Arkansas to New York city:	
Nuts.....	7 c.
6 3-10 c. Texas to New York city:	
Nuts.....	9 c.
7 c. Seattle, Wash., to New York city:	
Fresh fish (packed in ice).....	10 c.
(Gross weight 15 pounds.)	

(4) In the light of the above facts, and in further consideration of the fact that there has not been any adequate investigation as to postal methods of cost-accounting, or cost of service, for many years, it is apparent that no intelligent postal rate-making legislation can be enacted by Congress until such costs are determined. In postal legislation of this character there must first be analyzed the function of the Postal Department in relation to the people of the nation, and the principles clearly set forth as to whether—

(a) The postoffice is to be regarded as a money-making, revenue-producing function of the Government, or

(b) Whether it is a governmental function similar to that of all of the other great governmental departments, in which the service rendered the nation is of primary importance and the cost and revenue and rates thereof a secondary consideration.

(5) That the charges and allegations so loosely bandied about by the opponents of periodicals and newspapers, i. e., that the low postage is a "subsidy" to publishers, is utterly unsound and false in principle. It is the consumer in every case who pays whatever freight and transportation rate is charged upon any article; that the consumers of newspapers and periodicals are readers; that the high postage means high cost to readers, and therefore fewer readers. To discourage reading by legislative enactment through guesswork postal legislation is destructive to the solidarity and high citizenship of this nation.

Low postage is therefore no more a "subsidy" to publishers than is the free distribution of educational farm bulletins from the Department of Agriculture a "subsidy" to farmers; or commercial bulletins to business men or manufacturers from the Department of Com-

merce a "subsidy" to business men; or similar business scientific and educational information from the Department of Labor or the Interior a "subsidy" to the citizens receiving them.

(6) Careful analysis of the publishing industry in all of its branches and phases shows that it is one common ground upon which all publishers of every kind of publication and newspaper in this grave emergency may stand absolutely united, that is, in opposition to this 50 to 900 per cent. periodical and newspaper postage increase and demand its repeal.

It is to be most sincerely deplored that certain elements, both in Congress and out, have attempted to make capital for themselves and to utilize the hostility of those elements in Congress who have been sensitive to newspaper and periodical criticism to trade national legislation to their own advantage.

The fundamental relation of the postal function is as vital to newspapers as it is to periodicals of less frequency, and it is the same in both cases, they serve the nation through the same means.

(7) It is earnestly and urgently recommended:

(a) That all publishing interests unite in demanding a full and adequate investigation and accounting of the Postoffice Department and a determination of its function in relation to the people of the country. And that they energetically educate by every use of discussion in their columns their readers as to the true principles of our national postal function.

(b) That until such analysis, investigation and determination shall have been made, it is unfair and unjust to enact postal rate legislation, since at present there is nothing more than guesswork as a basis.

Attention is particularly directed to the remarks by Senator Smoot in the Senate on January 3, when in introducing a revision of the War Revenue Bill he said: "The new measure also repeals and eliminates the zone system of increased rates on second-class postage. It leaves this matter out of the bill, as it does not properly belong in a taxation bill."

"The adjustment of these rates should be left to the Committee on Postoffice and Postroads, and be the subject of separate legislation. It is not fair to drive through such a repressive measure in a necessary taxation bill."

WHO IS RIGHT AND WHO IS WRONG?

THE American people are not going to hold any bureau head, Cabinet official or anybody else than the President responsible for the outcome of the war, so far as this country is concerned. If our part in the war proves a failure, the finger of public condemnation will reach far over the heads of committee-men, bureau chiefs, department heads—and even of Congress.

It will point straight to Woodrow Wilson and to nobody else!—Atlanta Constitution.

The foregoing extract from the Atlanta Constitution takes an entirely wrong position. The Constitution has been vigorously criticizing inefficiency in the Postoffice Department, and demanding the removal of Postmaster Burleson, alleging that unusual incompetency has been displayed in the management of the Postoffice Department, but when it comes to the management of the War Department the Constitution takes the ground that there must be no interference with President Wilson's prerogatives, and that we must leave the entire War Department to him. If this is true as to the War Department, why is it not true as to the Postoffice Department? If President Wilson can make no mistake in the management of the War Department, surely he can make no mistake in so simple a thing as the management of the postoffices of the country.

In this extract the Constitution shows a lamentable failure to recognize the importance of this war situation; it even suggests the possibility of failure in war on our part, and that if so then this failure would be charged against Woodrow Wilson, and gives that as a reason for not criticizing the War Department.

It is not conceivable that we shall fail, even though the struggle might last for years, but it is conceivable that we might have to carry on for years a war which might be shortened by more aggressive action. The very thought that our failure in the war would in the future merely point back to Woodrow Wilson goes for nothing. President Wilson is not the nation; he is the nation's leader, and the failure, if we should make one, would fall upon the nation as a whole, and upon every individual, and we would care little then what history might say as to the cause of the failure. The Constitution needs to revise its views on a question of such tremendous interest, for if we must not criticize the War Department because President Wilson is in charge of war affairs, surely we must not, for the same reason, criticize, as the Constitu-

tion has been vigorously doing, the Postoffice Department, whose operations are of trivial importance as compared with the operations of the War Department.

In the view of the Constitution, Mr. Wilson made a lamentable mistake in selecting Postmaster-General Burleson, and this the Constitution is almost daily undertaking to prove. If Mr. Wilson made a mistake in that case, might he not have made a mistake in the War Department? If the Constitution demands that Mr. Wilson should remove Postmaster-General Burleson, which it does with tremendous vigor day after day, why should it be so vigorous in insisting most specifically, not in defense of Baker, but in defense of Wilson, that there should be no criticism against the possibility of Wilson's having made a mistake in selecting Baker? Was Wilson's choice infallible when he selected Baker, and not infallible when he selected Burleson? It is up to the Constitution to answer.

We cannot conceive that in these times anyone would criticize either Baker or Burleson for the purpose of embarrassing the Administration, but only for the purpose of helping to bring about greater efficiency, and we are sure that that is the only motive of the Constitution in demanding the resignation or removal of Mr. Burleson. Nobody has criticized Mr. Baker's administration except for the purpose of bringing about greater vigor and activity in the prosecution of the war.

HOW DIFFERENTLY DIFFERENT PEOPLE VIEW THE SAME THING.

THE MANUFACTURERS RECORD gets many letters bearing on war questions. Most of them are letters of commendation and in number are far beyond our ability to publish, but occasionally we get a letter which illustrates the narrow horizon and the hide-bound partisanship of its writer. Here, for instance, is one from Wilmington, N. C. We give it just as written:

Why don't you "come out in the open" and espouse the cause of the Kaiser. The people are right with Wilson, and Baker, and Burleson, and Garfield. You cannot quote a reputable paper on your side. Why don't you quote the best papers of the South, such as the Richmond Times-Dispatch, Raleigh News and Observer, Charlotte Observer, Columbia State, Charleston News and Courier, Savannah Morning News, Jacksonville Times-Union, instead of those "yellow" journals you did quote, not one of which has good standing in its home State. Your publication deserves to be denied circulation through the mails as was Tom Watson's. Down with the friends of the Kaiser!

Very truly,

W. P. CAMERON.

Wilmington, N. C., Jan. 26, 1918.

The same mail which brought this charge that the MANUFACTURERS RECORD was a coworker with the Kaiser because it has dared to suggest that there is incompetency in many departments in Washington and lack of efficiency where there ought to be efficiency brought three other letters on the work of the MANUFACTURERS RECORD. One of these was from United States Marshal William W. Stockham of Baltimore, and is as follows:

I have noted with pleasure the article appearing in your last issue in regard to loyal Americans giving information as to unpatriotic utterances by pro-Germans. If all of the newspapers were to take up this matter in the method taken by you, I feel sure that every good American would aid us in the work we are now doing.

Another was from Henry A. Wise Wood of New York, in which Mr. Wood said:

A short time ago I saw a copy of the correspondence between Mr. Edmonds and the President, with respect to the impending shortage of food. I was greatly impressed with the facts set forth by Mr. Edmonds, and would be obliged if he would let me have them and such additional facts as may since have come into his possession. I think I can give these facts publicity here, which will be extremely useful to the admirable campaign which Mr. Edmonds has undertaken, and the Food Administration.

I should like to take this opportunity to compliment the MANUFACTURERS RECORD upon the superb work for preparedness which it has been doing so faithfully since the beginning of the war in Europe. Would

that more publishers had Mr. Edmonds' foresight and breadth of vision!

Another was from Mr. W. M. Wirt of Tampa, Fla., who writes:

I wish I could pen my thoughts in an intelligent way. There is so much I would like to say in these perilous times. I think every American citizen ought to strive to be rightly informed; and shun light, trashy literature and weak-minded politicians. In my estimation, we, as a nation, are paying dearly for the folly of being led off with washy literature and weak-minded politicians, in our last national campaign. The air was full of that peace talk pacificism and the folly of preparedness. The result was that men were put at the head of this Government, just as one of the greatest calamities swept over us that was ever known; so what could we expect but that there would be great mistakes and a waste of time and money, and, the worst of all, many lives sacrificed before the great wrong could be righted?

I have been a reader of your valuable paper for several years, and as I read your timely warnings, I hoped and prayed this country might be saved from that great blunder of two years ago, but since it has come, we should strive to make the best of it and as I continue to read your timely warnings, I am led to believe that it is as a voice from heaven, and there will be great good accomplished through your efforts. I feel that if I could be the means of getting your paper into more homes I would accomplish a great good, but what little I may do amounts to nothing compared to what some could do if put where they rightly belong in these strenuous times.

As you have in the past, so I hope you will continue to put the facts before the people.

The letter from Mr. Cameron from Wilmington is published merely to show how it is possible for some people of narrow vision to think first of parties and then of the soldiers and of the country. Otherwise it would not seem to have been possible for Mr. Cameron to have given voice to the suggestions made in his letter. But he is heartily welcome to the space required to let him have his say.

LIBERTY BONDS SHOULD BE PUSHED IN EVERY FARMING SECTION.

SINCE shortly after the beginning of the Liberty Loan campaign, the MANUFACTURERS RECORD has urged that a comprehensive plan should be inaugurated by the National Government for placing Liberty Loan bonds in every farm district of the country. At the moment this might perchance interfere with the work of Mr. Vanderlip's committee in arousing the country districts as to War Thrift Stamps. But following that campaign, or in connection with it, there should be a broad campaign handled by special Government agents in every county in the country to interest the farm people and the village and townpeople in subscribing to Liberty bonds. Some weeks ago we called attention to the enormous income of the farmers of the nation, whose crops this year are about twice the value of crops of 1915. It is true that it has cost more to produce these crops than it did in 1915; nevertheless, there is a wider margin of profit than ever before.

This is brought out strikingly in a letter from Mr. Chauncey Smith of Atlanta, who, in giving some details as to the prosperity of the country districts of Georgia and Alabama by reason of farm prosperity, reports that a small town in Alabama with 7000 population, located in a farm district and dependent upon farmers, has on deposit in its banks \$3,500,000. This great farm wealth must be tapped by the Government for Liberty bonds. It cannot be done over night. It must be vigorously and aggressively worked day after day and month after month, not merely during the time when the Government is trying to float a new loan, but constantly, without ceasing, so that there may be created a sentiment in every rural community which will steadily absorb Liberty bonds.

The suggestion was some months ago pressed upon the attention of the Government, and we hope to see it vigorously pushed among the farmers. This campaign, rightly handled, could also be made to create a realization on the part of the farmers for the need of increased food production and conservation, and it would at the same time awaken them to a greater extent than ever as to the meaning of the war, and

in this way quicken the latent patriotism of everyone who has not yet been touched by the realization of this situation.

Mr. Smith's letter is an interesting presentation of the whole matter. It is as follows:

Southern Bell Telephone & Telegraph Co.,
Cumberland Telephone & Telegraph Co., Inc.,
Executive Offices, Atlanta, Ga., January 21.

Editor Manufacturers Record:

The extent of the prosperity of the Southern farmer and his ability to contribute, if he will, to help carry the burdens of the country are clearly indicated by the following facts:

According to the report of the Bureau of Crop Estimates, United States Agricultural Department, the value of the crops in the State of Georgia amounted for the year 1917 to practically \$550,000,000. The cotton crop of the State is estimated at over 1,800,000 bales, and at present prices of cotton and seed this would bring to the growers nearly \$340,000,000. Using the figures of the United States Census Report of 1910, and estimating that the movements indicated therein as regards development of farms and farm lands have continued since 1910 at the rate indicated for the previous decade, it appears that the value of the total crop of the average white farmer in this State is approximately \$1770, and of the average negro farmer \$1580; that the value of the cotton and seed is for the average white farmer \$1070 and for the average negro farmer \$975; and these figures for cotton stand for cash received. After all deductions are made for rent, cost of production and living expenses, there remain in the farmers' hands far larger amounts of money than they have ever handled before.

The above figures do not indicate value produced of livestock and its products, and in certain sections of the State, especially, this value has recently assumed a very substantial figure.

I have not at hand the figures for other Southern States, but from my information as to the conditions prevailing throughout the South, I know that Georgia is fairly representative of other States.

That the situation indicated by the above figures is not an imaginary one can be verified by anyone who will take the trouble to inquire as to the farmer's actual condition. Such developments as the following are typical:

A farmer in South Georgia owning 175 acres, with 60 acres in cultivation, secured 15 bales of cotton, 300 bushels of corn, 10 hogs averaging about 300 pounds for market, after supplying his own requirements, and in addition raised a quantity of velvet beans and peanuts. At present prices his marketable products would have a value of approximately \$3500.

A farmer in Alabama has a 10-acre lot which last winter he would have been quite ready to sell for \$5 an acre. He planted this in peanuts and marketed the production for \$650.

The banks in the little city of Dothan, Ala., having a census population of a little over 7000, have deposits of approximately \$3,500,000.

Burke county, Georgia, will take in from the marketing of its cotton crop alone well over \$10,000,000. This county has a census population of 27,268. This means gross receipts from the cotton crop alone of over \$400 for every man, woman and child in the county.

Under these conditions the South ought to be handling far more of the national financing than it is now doing. The farmers of Georgia should have been able to take the whole State assignment of the last Liberty loan without feeling it. On the contrary, it is safe to say that the average farmer is doing nothing. He will do nothing until educated. He knows nothing about bonds or savings. It is the duty of every patriotic man who comes into contact with the farmer to "do his bit" in educating him to take his share of the savings stamps and the next Liberty loan. Once started, the farmer can be counted on to do his part. Every man who pays cash to the farmer for his products should take that occasion to urge on him to invest part of this cash on the spot in bonds or savings stamps. Every banker should go over his list of farmer depositors and urge each one to invest part of his deposits in Liberty bonds. Every cotton buyer should point out to the farmer that if he will put part of his money into Liberty bonds or savings stamps he can get it back again when wanted or borrow money on the securities. Every farm demonstrator and rural carrier should make himself a committee of one to urge on the farmer to this investment, pointing out to him that his money will not be gone, but will be drawing interest and in shape where he can convert it into cash at any time. This education will be slow work, but once started, its progress will be steady, and the farmer, once brought into line, will "stay put," for that is one of his characteristics.

The above does not apply to the white farmer only, but to the negro farmer as well. Every white farmer can use his influence with his negro neighbors to get them to spend their money in this way rather than in useless luxuries and dissipation. The figures given above indicate the amount of money which could be secured from the negro farmer if he can be brought into line.

It should be borne in mind that what has been said above applies not merely to the conditions prevailing now, but will apply with even greater force to the conditions that will prevail during next fall and winter.

CHAUNCEY SMITH.

RELAYED USE OF SOUTHERN PORTS AS A MEANS TO RELIEVE CONGESTION IN SHIPPING.

THE gratifying announcement has been made that the Government has at last taken steps that will insure the use of the Southern ports to their fullest extent in order to give relief to congested shipping conditions at the ports of the North Atlantic seaboard.

The business of the country has been subjected to paralyzing conditions with the priority orders, industrial closing days, fuelless Mondays, etc., made necessary to a large extent by overcrowded warehouses and the piling up of unloaded freight trains at Northern ports, whence cargoes could not be moved out rapidly because it was impossible for ships to fill their bunkers with coal.

As has been pointed out by the MANUFACTURERS RECORD on numerous occasions during the past few years, the only solution to the problem of congested Northern ports is the greater utilization of the ports of the South. These Southern ports, with open water at all times, provide the obvious relief for congested freight conditions, and should long ago have been utilized in exactly the manner now proposed by the Government through its Committee on Shipping Control. A competent Committee on Shipping Control will be able to immediately afford relief to the conditions that prevail now and have prevailed for weeks and months at the frozen ports of the North.

The personnel of the Government's new Committee on Shipping Control insures intelligent work in this direction. P. A. S. Franklin of the International Mercantile Marine is chairman of the committee, the other members being H. H. Raymond, controller of the port of New York, and Sir Cunnap Guthrie, export director for the British Ministry of Shipping. This committee has full authority to allocate tonnage in any part of the United States, and is empowered to settle all operating questions with the Allies and the army and navy as well. It is announced that the process of diverting freight will begin at once, and that the Southern ports will be utilized to their full capacity.

From the plans of this committee, as outlined in Washington correspondence to the MANUFACTURERS RECORD in this week's issue, it is evident that intelligent action for immediate relief may be confidently expected. Unquestionably the results will be of national and international advantage and importance, and if wisdom continues to prevail there never will be an abandonment of the utmost possible use of the ports of the South.

THE SHORTER THE HOURS AND THE HIGHER THE WAGES OF INDUSTRIAL AND RAILROAD EMPLOYEES, THE GREATER WILL BE THE SCARCITY AND THE HIGHER THE PRICES OF FOODSTUFFS.

WRITING from his farm at Pineville, N. C., Mr. George T. Kearsley sends to the MANUFACTURERS RECORD an article from a farm paper bearing on the advancing cost of foodstuffs, which, he says, is in harmony with his own farm experience and observation in his section of the country, and he adds:

This leads me to believe that the high cost of living has not yet reached its pinnacle, but will continue to soar.

As you appear to have excellent statistical resources and broad views, I am anxious to know to what extent you concur.

I do not believe that the farmer will continue to work the long hours of bygone days. In the majority of cases he sold the original fertility from his land and his wife and children produced the crops for board and clothing. It may not have arrived, but if existing gets any worse, the city employe will surely have to get out and grow his own grub. Labor is not to be had, and the little that is available demands its own hours and sets the wage.

I do not see how it is possible to avoid a greatly decreased production in food in 1918, but my views are governed entirely by a limited scope of country, though the newspapers state the same conditions to be general.

I have never regretted leaving the city four years ago and becoming a farmer.

This view of the situation from a practical farmer is in direct line with the position which we have been taking for a long time. The farmers are beginning to demand their rights. They see that the hours of labor in industrial employment are being reduced to eight a day, and in some cases even less, while the farmer knows that he works anywhere from 12 to 15 hours per day. It is, perhaps, true some farmers do not work with the same degree of regularity as industrial employes, but the difference is not sufficiently great to materially change the situation.

If the farmer decreases his hours to meet the shorter hours in industrial and railroad life, no one can possibly blame him, but this would mean a very great increase in the cost of foodstuffs. We are being told by the Government that the coal miner and railroad man must work only eight hours a day, and Mr. Gompers has lately advocated a seven-hour day for all industrial workers during the war. The farmers will certainly, in view of this situation, demand that their hours of labor shall be lessened, for they will no longer be contented to work twice as long as the mechanic and get smaller results. Therefore, the wages of the farm laborer must be greatly increased and the hours of labor shortened or the men will not stay on the farms. We have before us, therefore, the great problem of how to increase foodstuffs, while the supply of laborers with which to do this is steadily decreasing.

The men who have been so vigorously advocating shorter hours of labor in industrial and railroad activities will of necessity be compelled to pay a greatly increased price for foodstuffs which the farmer will demand for his products. The shorter the hours and the higher the wages of industrial and railroad employes, the smaller the food supply and the higher the cost of food is the condition we face, because the former will bring about lessened labor supply, shorter hours and high wages on the farms.

The situation is a serious one, and should be studied from every possible viewpoint.

Cable advices from England state that the British Government has reprinted from the Manufacturers Record

FIVE MILLION COPIES

OF

REV. NEWELL DWIGHT HILLIS' GREAT LECTURE

Germany's War Plans And Her Atrocities in Belgium and France

Great Britain's tribute to the marvelous power of this address is such an endorsement of its tremendous value that every man and woman in America, without waiting for similar action by our Government, should do the utmost to spread broadcast the pamphlet copy of this address.

Copies will be mailed from this office to any list of names submitted at

FIVE CENTS PER COPY

or will be shipped in bulk at

FOUR DOLLARS PER HUNDRED

MANUFACTURERS RECORD
Baltimore, Maryland

HOW ONE CONCERN IS TRYING TO DO ITS PART.

MR. W. A. PRINGLE of Thomasville, Ga., one of the Commissioners of Roads and Revenues of that county, in a letter to the MANUFACTURERS RECORD calls attention to two letters received from officials of the Birmingham Slag Co. of Birmingham, Ala., and he adds:

I am so favorably impressed with the spirit expressed in these letters that I am asking if you could not find space in your valuable journal to give them publication. It would greatly stimulate your readers and encourage this important act, which would help so much to overcome our enemies.

The letters enclosed by Mr. Pringle are well worth publishing. One of them is a circular issued by the Birmingham Slag Co., addressed to all of its employes. It is as follows:

November 27, 1917.

To All of Our Employees:

Do you want to help win the war?

Here's how you can do it.

Help your country and her allies by thinking of them while you are eating. It is up to you, and each of us, to decide whether the boys in France will have sufficient food this winter. Our allies cannot feed the thousands of boys that are going "over there." We must feed them and help feed the soldiers of our allies. They are all fighting for us.

Suggestions for doing your "bit":

Eat plenty, but do not waste.

Cut meat and wheat out of at least one meal daily.

Substitute corn, rice, hominy, rye flour, breakfast foods, etc., for wheat.

Eat more fish and poultry and less beef and pork.

Use less sugar.

Help consume the available supply of vegetables. We can ship meat and wheat to France, but vegetables must be consumed here.

The easiest and best way for you to help win the war is to think of the "boys in France" three times a day when you are eating. This is a small bit for each of us, but when multiplied by 100,000,000 it will be a big help toward "putting the Kaiser on the run."

Can your country count you as one of her helpers?

The things urged in this circular-letter upon employees of that company have been fully reiterated by Mr. Hoover, the Food Administrator. They have been preached from the pulpits and taught through the newspapers, but it is not possible to repeat them too often. It is only by repetition, by line upon line and precept upon precept that the facts as to the extreme necessity of food conservation and how to bring it about can be driven into the very life of this country. The other letter sent by Mr. Pringle shows that the Birmingham Slag Co. is patriotic and at the same time is carrying forward work of improvement in its own plant with abounding optimism as to the future demand for its product. This letter, which was written to the Commissioners of Roads and Revenues at Thomasville, Ga., is as follows:

We are operating our present plant at a loss since Priority Order No. 2 went into effect. Nevertheless, we are rushing to completion our new plant, which will have a capacity of 4000 tons of screened slag per 10-hour day, feeling confident that the time is not far distant when the producers of road material will be taxed to the limit of capacity in furnishing road metal for the construction or betterment of National, State and county highways to be linked up and co-ordinated with the rail transportation system of the entire country, which has reached the apex of its efficiency.

As a necessary war measure, which has the advocacy of the War Board and of Judge Robert S. Lovett, administrative officer under the Priority Shipment Act, the motor truck must very soon be depended upon to relieve the congested condition of the railroads. Good hard-surfaced roads is a primary requisite before it will be possible to organize and operate successfully motor-truck transportation. When the call comes from Washington we will be found ready to respond. This for your information and guidance.

It is our duty as well as our patriotic pleasure to do everything in our power to help enthrone to a white heat the patriotism of the 95 per cent. and to be equally constant and persistent in our efforts to aid the Government in locating and making harmless the 5 per cent. of spies, traitors and blood maniacs.

We are indebted to Richard H. Edmonds, editor of the MANUFACTURERS RECORD, for being able to distribute the "Hillis" and other equally as strong war pamphlets at the very small cost of \$4 per hundred. Single copies can be obtained from the MANUFACTURERS RECORD, Baltimore, Md., at 5 cents each.

We are trying to do our part. How is it with you?

Concrete Ship Construction To Be Thoroughly Tried Out

AMAZING POSSIBILITIES SUGGESTED IN WAY OF RAPID AND CHEAP PRODUCTION—OUTPUT OF 10,000,000 TONS A YEAR DECLARED TO BE A FEASIBILITY.

[Special Correspondence Manufacturers Record.]

Washington, D. C., February 4.

The practicability of the concrete ship is to have a thorough test, according to an announcement just made by the United States Emergency Fleet Corporation of the Shipping Board. Contracts have been let for the construction of four ships of varying types, and if any of these four prove satisfactory, the program will be extended.

Although the Shipping Board has been reticent as to the details of the concrete ship contracts, it is understood that as early as December 17, 1917, the Liberty Shipbuilding Co. of Boston was authorized to build an experimental ship, with 49 others to be provided for under certain conditions if the first proved a success. The concrete division of the board is also at work upon plans for a vessel of 3500 tons dead weight, for which bids will be opened March 1. This ship, with a length of 281 feet and a 46-foot beam, is designed along much finer lines than have heretofore been used in concrete construction, and marks a distinct departure in shipbuilding.

From unofficial sources it is also stated that contracts for 10 concrete ships have been let to the Ferro-Concrete Shipbuilding Corporation at Redondo Beach, Cal. These vessels are of the 3500-ton type, and it is said will be built by a recently patented method which insures rapidity. The first ship is expected to be delivered within six months and the other nine within a year.

The Senate Commerce Committee in its recent investigation into the affairs of the Shipping Board considered the concrete shipbuilding program at length. So impressed were the members of the committee by the testimony heard that a resolution was passed urging the Emergency Fleet Corporation to give early attention to the plan.

From the hearings before the Senate Commerce Committee, which have just been made public, it appears that concrete experts painted a glowing picture of the possibilities of concrete in the shipbuilding industry. It was stated that a success in the use of the new medium would insure the maximum tonnage needed by the shipping of the United States.

Witnesses stated that the future of the concrete ships will be largely determined by the results of tests to be made upon an experimental ship which will be launched at San Francisco at the end of this month. This ship will have a capacity of 5000 tons, and represents the most ambitious effort yet made in concrete shipbuilding. The plan now is to have the San Francisco hull towed up and down the coast for several trips before her engines and boilers are placed, so that the practicability of the ship may be tested fully in the open sea before further money is spent on the project.

From the testimony before the committee it appeared that concrete has long been used for small vessels in Europe, one ship having made a voyage of 2000 miles from Norway. Barges of concrete were used at Panama in the canal work, and their durability proved by hard and continuous usage. While these boats were not large, it is maintained that their successful operation may be taken as proof of the suitability of the material for shipbuilding.

Granting that large ships of concrete are practical in operation, it was pointed out that numerous advantages are to be gained in their construction during the present crisis. Further expansion in the steel and wooden shipbuilding industries is limited by labor shortage, the scarcity of materials and the difficulties of transportation. The service of skilled mechanics are necessary, and considerable time is required. Reports from shipyards throughout the country recently have shown a deplorable slackening in the work of the employees.

The concrete vessel, however, is built almost entirely by unskilled workers, who can be secured in almost any field. The cost of a concrete ship, moreover, is much less than that of a steel or even of a wooden vessel. With the standardization of the forms for the concrete, which can be used repeatedly, the expense will be fur-

ther curtailed, and greater speed obtained in building. Either wooden or metal forms have been found satisfactory, the greater initial expense of the latter being offset by their durability. There is also a system of applying concrete by air pressure, in which no forms are required. Under the air system a shield is held up behind the steel reinforcement, and on that the concrete is deposited as a spray and driven with great force into a very compact mass. This compressed air concrete is exceedingly dense, a quality which renders it particularly suitable to ship construction because it is water-proof.

It was estimated by experts before the Senate committee that after getting operations well under way a ship hull should be turned out in 30 days having a capacity of 8000 to 10,000 tons. With an energetic prosecution of work at this rate, the remarkable statement was advanced that the tonnage in concrete ships should reach 10,000,000 tons a year.

Tests with concrete have demonstrated that while it is as elastic as steel, it does not take up vibration. This quality would appear to be an asset in the transatlantic trade through the submarine zones. A torpedo striking a steel vessel not only damages that section with which it comes in contact, but causes a loosening of plates and rivets through the entire hull. A similar damage results in wooden vessels from the opening of the seams. It is claimed that with a concrete hull the explosion will be localized.

In the plan for building ship hulls with concrete, transverse bulkheads will be placed at approximately every 50 feet. When a torpedo hits such a vessel, concrete experts maintain that the extent of the explosion will be confined between bulkheads, and the structure, as a whole, will be undamaged. When a ship is punctured in such a manner, a curtain is let down over the damaged portion, and the hole patched with new concrete. Those who favor the use of concrete ships find in this torpedo-resisting quality and mode of rapid repair, two of their strongest arguments.

A feature which should make the production of concrete ships a profitable one in America, it was stated before the Senate Commerce Committee, is the accessibility of great supplies of cement. The United States is one of the greatest producers of Portland cement in the world, and the industry is widespread. In manufacturing concrete the ingredients used are to be found in nearly every section of the country. This will enable shipbuilders to use local products in their work, and will eliminate transportation charges. Shipyards in the South will be able to find the materials at their doors, and the work may be kept up throughout the winter under favorable conditions.

At the present time, cement, although one of the big assets of the country, is being used but little in war work. Its adoption as a shipbuilding material will, therefore, utilize this lost power, as well as permit the release of additional supplies of steel to the munitions factories and other industries requiring it. Cement is now bringing \$2 to \$2.25 a barrel, as compared with \$1.25 to \$1.75 in normal times. If its use should become general in the shipbuilding industry, there appears to be no reason why the Government should not fix the price of cement, as was done with steel. The amount required for a building program, such as has been suggested, would reach 10,000,000 tons, or from 5,000,000 to 7,000,000 barrels. This represents but 10 per cent. of the total output of cement in the United States.

Doing Forceful and Timely Work.

T. C. HUMPHRIES, Secretary B. F. Avery & Sons, Louisville, Ky.

You are certainly publishing the most vigorous pro-American editorials and articles of any journal known to us, and we beg to congratulate you upon the forceful and timely work you are doing in this direction.

PETROLEUM MOVEMENT IN DECEMBER.

In Only One Field Has Surface Reserve Increased.

The following comparative summary of crude petroleum movement in December, 1917, represents the operations of 180 pipe-line and refining companies that handle or receive oil direct from the productive fields east of the Rocky Mountains, and is compiled from reports received by the United States Geological Survey, Department of the Interior, prior to noon of January 29, 1918.

This compilation includes statements filed by 44 companies operating in the Appalachian field, 11 in the Lima-Indiana field, 6 in the Illinois field, 83 in the Oklahoma-Kansas field, 13 in the Central and North Texas field, 7 in the North Louisiana field, 8 in the Gulf Coast field and 8 in the Rocky Mountain field.

CRUDE PETROLEUM MOVED FROM FIELD SOURCES.

(Barrels of 42 gallons each.)

Field.	Dec., 1917.	Nov., 1917.	Dec., 1916.
Appalachian	1,810,558	2,914,190	1,617,721
Lima-Indiana	229,316	281,229	274,628
Illinois	1,094,127	1,235,761	1,413,075
Oklahoma-Kansas	12,543,980	13,289,455	9,940,782
Central and North Texas	993,805	986,244	849,827
North Louisiana	509,519	294,389	782,962
Gulf Coast	1,773,225	1,613,538	1,815,096
Rocky Mountain	852,632	777,906	674,886
Totals	19,807,143	29,492,712	17,368,942

Total crude petroleum deliveries to refineries or consumers for December, 1917, were 24,145,389 barrels of 42 gallons each, as compared with 22,966,583 barrels for November, 1917, and 20,055,618 barrels for December, 1916.

STOCKS OF CRUDE PETROLEUM AT END OF MONTH.

(Barrels of 42 gallons each.)

Field.	Dec., 1917.	Nov., 1917.	Dec., 1916.
Appalachian	4,042,829	3,967,894	4,205,069
Lima-Indiana	1,906,848	1,987,406	2,247,124
Illinois	3,585,312	4,177,799	6,599,972
Oklahoma-Kansas	94,789,528	97,152,539	92,932,964
Central and North Texas	2,737,472	3,169,297	4,304,375
North Louisiana	2,627,446	2,224,916	4,263,196
Gulf Coast	9,047,337	9,702,639	9,801,244
Rocky Mountain	569,039	488,567	745,181
Totals	119,232,811	123,571,057	125,039,225

Statistic of petroleum movement in California not included.

With regard to petroleum production, the summary for December reflects, as to the oil fields north and east of Oklahoma, the adverse effects of an unusually early and severe winter; and as to the Rocky Mountain field, the contrary effect of unusually moderate weather during the greater part of December. The gain over November in the North Louisiana and Gulf Coast fields indicates the return to these fields of practically normal conditions after the strike of oil-field workers in November, whereas that in the North Texas field is ascribed chiefly to the success of drilling in the Burk Burnett district.

Consumptive demand for crude petroleum in December, though in excess of current production in all fields except the Appalachian and Rocky Mountain fields, was generally less than in November with respect to light-gravity oils, but was appreciably greater than in November with respect to petroleum valuable for use as fuel.

Storage oil was requisitioned in December in all fields except the Appalachian and Rocky Mountain fields, where moderate additions to stocks were made. Except in the Oklahoma-Kansas field, the surface reserve of crude oil at the end of 1917 was appreciably less than at the end of 1916.

Would Have "Belgium" Substituted for "German" on Bills of Fare.

JOHN G. QUINN, Traveling Salesman for W. C. Meadows Mill Co., N. Wilkesboro, N. C.

Please mail me ten (10) copies of Dr. Hillis' "Picture of Germany's War Plans and Her Atrocities in Belgium and France" and five (5) copies of "America's Relation to the World War." One dollar enclosed.

A suggestion, respectfully submitted. — Substitute "Belgium" for the word "German" before fried potatoes on every hotel menu card in America at once; sooner, if possible. Print Belgium on the cards in heavy black type, and the traveling public would do the rest. The result, I believe, would be electrifying.

An Alarming Situation Hinted At

A DANGEROUS CONDITION LONG KNOWN TO THOSE WHO INVESTIGATED WAR DEPARTMENT METHODS.

[Dr. Charles H. Herty, former professor of chemistry in the University of North Carolina and ex-president of the American Chemical Society, one of the foremost chemists of America, is now editor of the Journal of Industrial and Engineering Chemistry, the official organ of that great body of 8000 chemists. He is a Democrat, and therefore cannot be charged with partisanship against that party or the Administration, but first and foremost he is a patriot and a chemist. He knows the inside of the chemistry operations of the War Department upon which our supply of explosives and our ability to fight depend, and also knows the inside of other red tape work in connection with chemistry. And upon these points Dr. Herty sends broadcast advance copies of two editorials from the February issue of his journal in order to help save the nation. We commend them to our readers as a hint of what many have known for months as to one form or another of red tape's endless delays and inefficiency.—Editor Manufacturers Record.]

ON WITH THE INVESTIGATION.

[Editorial from February issue Journal of Industrial and Engineering Chemistry.]

The massing of German reinforcements from the East on the Western front led Winston Churchill, British Minister of Munitions, in an address at the American Luncheon Club recently, to exclaim:

"America! Come and aid us with all your might and speed, for this is a matter for action on the largest scale ever planned. * * * We are sure to win the whole of President Wilson's program if we will utilize all our resources fully." Such an appeal, coming from a member of a race strong in self-reliance and bulldog tenacity, must sink deep into the heart of every American.

That we have lacked speed in many of our preparations has been shown clearly by the investigations of the Senate Committee on Military Affairs. The reports show that the committee felt fully capable of probing deep into the supply of cannon, machine guns and rifles, but when the subject of ammunition for such arms, and particularly of the basic chemicals needed in its manufacture, was approached, the investigation seemed at once to veer from so technical a subject. This is not difficult to understand, and yet we feel that the committee can perform further public service if it will extend its investigations to cover thoroughly this field, particularly as to acetic acid for aeroplane dope and toluol for high explosives.

Enormous quantities of acetic acid are needed immediately, and until this is supplied the aviation program will be held up.

The present total output of this product is already engaged for the navy and our Allies. New factories must be built for further output.

With the liberty motor completed, with all arrangements made for the supply of spruce wood in abundance, the startling fact remains that, unless action has been taken within the twenty-four hours previous to this writing, not even the method of manufacture of the necessary acetic acid has been decided upon, much less has the erection of any plant begun.

In view of the tremendous difficulties of plant construction in these times, it is appalling to think of the delays ahead in this work, which even in peace times and under normal conditions would prove an extremely formidable undertaking.

It looks as if someone has blundered seriously, especially when we reflect upon the unprecedented speed with which Congress at the outset appropriated \$650,000,000 for the aviation service.

The fundamental importance of toluol, the great need for it in the production of high explosives, and the method of its manufacture by stripping gas are well understood at the present time. Appropriations have been available since the adjournment of the previous session of Congress. Nearly six months have elapsed since the conference was held in Washington between representatives of the War Department, the gas producers and the public service commissions.

Yet today there are many gas plants with which no

final arrangements have been made by the War Department for the erection of scrubbers to strip the gas. That this condition is not due to lack of co-operation by the companies is indicated in a letter to us from Brig.-Gen. William H. Crozier. Under date of October 17, 1917, he states: "We have received a ready response to co-operate with us from every company that we have written to so far." We have been informed by the Ordnance Department that for the present at least negotiations for the installation of apparatus for the recovery of toluol will not be conducted with gas plants whose capacity would be less than 40,000 gallons per year. It would be interesting to learn through a public investigation how far these negotiations have resulted in actual contracts and inauguration of construction work, and what dates such contracts bear. Unfortunately, we are not in position to give much detailed information on this point, but we know of one contract which has been shifting forward and backward for months, and is not yet signed. Whether the delay in settling the petty features of the contract is due to the attitude of the manufacturer or to the methods of the War Department it is not for us to judge, but we do know that the construction firm in question would not be at all adverse to an investigation of the reasons for this delay. When all is said, it is not a question of this or that manufacturer; if any such firm delays the prompt execution of Government plans, turn aside from him and get a contractor who will start the work promptly. It is toluol that is needed, and not the saving of a few cents per gallon in its production.

It would seem that officials of the War Department are still following the leisurely ways of contract making characteristic of peace times, while material which may be of the utmost importance at a critical moment is now being burned, and can never be recovered.

Of course, the decision to use mixtures of toluol and ammonium nitrate for high explosives relieves the situation somewhat, nevertheless the ammonia plants are not yet completed. We have upon us the responsibility of supplying not only the needs of our own army, but of aiding in every way possible those of our Allies. This applies particularly to Italy, fighting so resolutely today, its very existence immediately threatened.

If it be held that toluol recovery must not exceed nitration capacity because of lack of storage tanks, will not the War Department contemplate the many cases of seeming autocratic procedure adopted by Government officials during the last few weeks, acts which have been accepted cheerfully by the country because they were war measures? In the light of such procedure the storage question can readily be solved by commandeering some of the many storage tanks scattered throughout the country and now filled with petroleum products. Can anyone doubt the relative value to ourselves and our Allies of a half dozen such storage tanks filled on the one hand with kerosene, or on the other hand with toluol? Then, too, is the War Department certain that the nitration capacity of the country is not in excess of toluol recovery, or that it will not be so by the time the recovery plants are installed? Already the coal shortage has seriously diminished the production of toluol from the by-product coke ovens, until now the chief source of supply.

This country can possess no more valuable re-

serve than ample quantities of stored toluol. Another Halifax disaster, the bombing of a few munitions stations, the sinking of a few supply ships stored with this material might at any moment make a serious shortage, a shortage which would be criminal with all the lives at stake, if the possibility of such can be avoided. On with the investigation! Senator Chamberlain can perform a distinct service if through his committee he can speed up matters in the supply of such materials. The country will hereafter crucify with its scorn any manufacturer who now seeks to profiteer at its expense in this its hour of trial. So, too, will the country hold accountable those of its public servants who dilly-dally over minor details in fundamental matters.

\$2,000,000 FOR COLLINWOOD CHEMICAL PLANT.

Details of Plan to Manufacture Alcohol and Acetate of Lime for Government Use.

An expenditure of \$2,000,000 will be required for the Collinwood (Tenn.) chemical plant announced last week as to be built by the Tennessee Valley Iron & Railroad Co. to furnish alcohol and acetate of lime for the Government. The plant buildings and their equipment of machinery will require an expenditure of \$1,500,000, while the accompanying improvements, to include the construction of employees' dwellings with electric-light service, water supply, sewers, etc., will cost \$500,000. This plant will have a daily capacity of 2700 gallons of wood alcohol, 52,000 pounds of acetate of lime and 12,375 bushels of charcoal, the latter to be used by the Tennessee Valley corporation for the iron furnace which it is now building in accordance with details recently reported. Each day the chemical plant will require 225 cords of wood, and it will produce some tar, creosote, wood preservative and wood oils, besides the alcohol, lime and charcoal. Arrangements are already in progress for cutting the 225 cords of wood which will be required every day, and which must be air-dried for six months before it can be used in the retorts. The plant will cover 25 acres of land, and the product which the Government will take is to be manufactured into munitions of war in connection with the prosecution of the war with Germany.

The contract for constructing the plant to completion by September 1 has been awarded to the Thompson-Starrett Company of New York, and will be under the supervision of the Pittsburgh offices, W. J. Summers of New York to be in charge at Collinwood. All other than plant construction will be undertaken by the Tennessee Valley Iron & Railroad Co., Delmar E. Teed, chief engineer, who is furnishing the plans and specifications for the chemical plant, Collinwood, by force account under the direction of Engineer Teed and J. D. Dunn, general superintendent. Lieutenant Clyde Gray will represent the Government. Mr. Dunn was for several years general manager of the Charcoal Iron Co. of America at Boyne City, Mich., and will have entire charge of operating both the chemical plant and the iron furnace after they are completed. This furnace will have a daily capacity of 100 tons of charcoal iron, and in connection with it the Tennessee Valley Iron & Railroad Co. will develop 85,000 acres of iron and timber land, capitalization having recently been increased to \$1,500,000 in furtherance of the management's plans.

That portion of the construction not included with the chemical plant proper is the buildings and public utilities required for the several hundred men who will be employed in building the plant and the 300 to 400 who will be employed when manufacturing has begun at full capacity. Some of the building construction required will include first sleeping quarters for 300 men; eating-room; 40x24-foot office; two-story office, with dormitory and meeting-room on second floor and shower baths on first floor; 100 dwellings; 165x150-foot brick business block four stories high; steam-heating equipments and electric-lighting systems will be installed in some of the buildings.

Idle cotton mills of Lancashire, England, are to be used for assembling airplanes of American manufacture.

A Revolutionizing Coal Discovery Announced from New York

ORDINARY RUN-OF-MINE BITUMINOUS COAL TO BECOME EQUIVALENT OF ANTHRACITE—BLAIR & CO. IDENTIFIED WITH NEW PROCESS WHICH HAS AMAZING POSSIBILITIES IN MANY LINES, ACCORDING TO ANNOUNCEMENTS—POWER PRODUCTION AT COAL MINES ONE OF FEATURES SPECIFIED.

[A well authenticated statement comes to the Manufacturers Record from New York to the effect that a new process has been perfected for treating bituminous coal, so that for fuel purposes it becomes the equivalent of anthracite. An amazing vista is opened for this new discovery, according to announcements made, and its importance in an economic and industrial way is difficult to exaggerate in the light of the claims that are made in its behalf. The identification of Blair & Co. with the project will cause universal interest in the announcement.—Editor Manufacturers Record.]

New York, February 4.

Announcement is made of the invention of a commercial process for converting bituminous coal into a new fuel, the equivalent of anthracite coal. This new fuel is completely smokeless in character, very hard and dense in structure, occupies approximately the same space as run-of-mine coal, and coal experts say that it will go a long way towards increasing the supply of smokeless fuel for domestic use, and affords for the first time a fuel that will burn without smoke and still permit the high steaming rates necessary in modern railway, marine and power practice.

An important feature of the process is that by it are recovered the very valuable by-products of coal that in present practice are wasted. The revenue derived from the sale of these products very largely compensates for the cost of conversion.

This new process is known as the "Smith process," and a company has been formed to put its various products on the market. This company is the International Coal Products Corporation, of which C. H. Smith, the inventor of the process, is president. Mr. Smith, who is a well-known coal-mining engineer, having been for a matter of 15 years associated with some of the largest coal operations in the Eastern and Western fields, began work on this new process some three years ago, in conjunction with Messrs. Blair & Company of New York. Blair & Company have very large interests in coal and railroad properties, and have all along been keenly interested in developing a proposition looking to the conservation of coal and the production of a completely smokeless fuel, which the process has produced.

As the public well know, coal burned in its raw state is an economic waste, and our scientists hold that Germany has been enabled to hold so far, almost single-handed against the world, due to the fact that she has used her coal in such a way as to get from it, or a great portion of it, practically every ounce of value of its rich mineral constituents, many of which form the basis of explosives.

Heretofore, it has been an accepted fact that a fuel possessing only one to four per cent. of volatile matter and very dense in structure could not attain the rapid steaming quality of good bituminous coals. Devolatilized fuels, such as coke, have not been capable of attaining the higher rates of combustion required today in locomotive, marine and general steam use, and their greater displacement has operated against their more general use where transportation costs or the value of storage space has been an important factor.

The "Smith process," briefly, takes the raw coal and through very simple and economical methods separates the rich oils from the pure carbon, and in turn presses into convenient shape for use the carbon, which is being today commercially used for household and power-plant purposes. This is called "carbocoal."

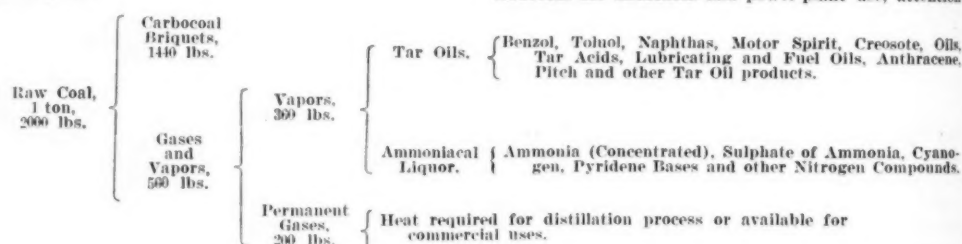
Carbocoal is produced from bituminous coals that are found in half of the States of the country, by a new method of coal distillation at relatively low temperatures, in which there is simultaneously obtained from the coal a sufficient quantity of valuable coal-tar products to largely offset the cost of converting the raw coal into a refined, smokeless product that will substitute most satisfactorily for anthracite in those sections of the country where a smokeless fuel is required.

Carbocoal may be said to be the result of more than

a half century's research and invention looking toward the securing of a satisfactory smokeless fuel from high volatile coal. In fact, it is known that such research work began in 1830, and that Bessemer, the inventor of the steel processes carrying his name, made extensive experiments along this line in 1849.

To develop the Smith process, which process has now been taken over by the International Coal Products Corporation, a plant was built several years ago at Irvington, N. J. Here exhaustive tests under actual operating conditions have been made. The unit finally evolved by these experiments has been in operation during the past year, and reliable data regarding operating costs, maintenance and other features of operation have been established. The equipment of the plant includes full by-product recovery apparatus, which has enabled accurate measurements of yield on a commercial scale obtained from about 25 different coals from various parts in the United States.

The process of refinement into carbocoal and its various by-products is typically indicated by the following diagram:



Carbocoal is said to be the nearest approach to a perfect fuel. It contains only from 1½ per cent. to 4 per cent. of volatile matter, and consists mainly of fixed carbon. In combustion it is smokeless, it ignites with comparative ease, burns freely and completely under all draft conditions, is dense, dustless, clear and uniform in size and quality.

Many tests of carbocoal have been made on railroads. It is found that they are particularly suitable for the following purposes:

1. Marine and locomotive service, where limited grate area and restricted boiler capacity demand an efficient fuel, and where smoke is objectionable, for ships in time of war.
2. Stationary boilers, where smoke pollution of the air is offensive and dangerous to health.
3. Domestic uses, including furnaces, stoves, ranges and open grates, where cleanliness and an even radiant heat without odor is sought.
4. Kilns, drying and roasting ovens and all purposes where intense, even, radiant heat makes for efficiency.
5. Gas producers.

Carbocoal has some essential differences from the other two forms of smokeless fuel, i. e., coke and anthracite, in that it retains all of the steaming qualities of our semi-bituminous coals and the smokeless qualities of anthracite and coke.

For household use it is clean, burns readily without soot or odor, and has all the advantages of anthracite in its ability to bank over night. It responds more readily to change in draft conditions. Its economies in this respect are fully equal to the best grades of anthracite.

In general steam use, in locomotive, marine and power-plant practice it is the first completely smokeless

fuel capable of maintaining the high rates of combustion necessary in modern use, and evaporates substantially the same amount of water per pound of fuel fired as the highest grades of steaming coal.

To those interested in coal conservation, and this includes all large coal consumers, the yield of by-products obtained by this process is most interesting. The coal distillation is carried out at a relatively low temperature, and at this temperature the valuable coal-tar products are recovered in their primary stage. In the ordinary carbonization processes these valuable products are to a considerable extent cracked up into secondary products, such as additional illuminating gas and an inferior quality of tar. By this new process there is apparently available some 20 gallons of tar oils for market as compared with four or five gallons of the same grades of oil in the ordinary carbonization processes, the balance of the oils having been partially decomposed in these processes.

In the Smith process all the pitch is utilized, so there is absolutely no waste of the constituents of the coal. In refining these tar oils many fractions are available for new uses.

One most dominant feature of the invention and indicating its value to the public, as pointed out by coal men, is that this process eliminates from any further consideration on the part of the public the exhaustion of present anthracite coal fields. The available tonnage of bituminous coal susceptible of being handled by this process, and its wide distribution over the United States, not only insure an adequate supply for years to come, but also brings this supply to the doors of thousands of people formerly prohibited on account of excess transportation costs from utilizing anthracite. It will be recalled that the noted authority, Professor Breckenridge of the University of Ohio, only last week called attention to the alarming shortage of this most necessary product to the American public. Moreover, the increasing cost of anthracite, due to deeper mining conditions, makes it imperative upon consumers to look in other directions for further supplies, and the invention just announced is most timely.

In addition to the announcement of the invention of carbocoal for household and power-plant use, attention

is also called to the utilization of a part of this process for the manufacture of very cheap electric power, this being accomplished in connection with the by-product gas producer, a steam electric power plant and the Smith distillation process.

Such an arrangement recovers both the tar and ammonia products in larger amounts than in any other form of coal carbonization, and the credit from the sale of these products very largely offsets the interest, labor and depreciation costs in connection with an operation of this kind, leaving a substantial amount of power available at practically no cost.

The process, therefore, puts coal now in the class of hydro-electric plants as regards cheap power. Large users of power will appreciate what this statement means.

The by-product gas producers have had a very considerable development in England, Germany and other foreign countries, but until recently, on account of special difficulties arising with the handling of American coals, the development has been backward in this country.

The partial carbonization of the coal by the Smith process has solved these deficiencies and made available a source of fuel for the by-product gas producers which is even more efficient than the non-coking coals in foreign countries, so that an extensive field for development along these lines is now open in this country.

These features have all been brought out by exhaustive experiments.

They show conclusively the low-power cost, and at the same time provide substantial yields of toluol and ammonia, products now in great demand for Government purposes. It has also been said that the cost of such electric power as shown by this process makes

commercially practicable the fixation of nitrogen, a matter now commanding the most careful interest on the part of the Government.

Some other of the merits of the process are pointed out, as follows:

It makes possible the centralization of power production near coal fields, whence cheap power can be transmitted to large industrial centers.

It also makes possible many new industries dependent upon low-power costs and the establishment of new industrial centers.

It is also held that such a system would eliminate many small and inefficient steam and electric units, with their smoke and wasteful combustion methods, and provide an efficient means of conserving fuel.

While the cost of power by this system is directly dependent upon the price of delivered coal, nevertheless, it is pointed out, relative savings can be effected by the utilization of this process in all steam electric plants now dependent upon raw coals as the source of power.

It is understood that plans are now under way for the rapid construction of plants at strategic points, so that large quantities of carbocool can be given to the domestic and steam consumers who are in such dire need for fuel of this nature. Moreover, there is a desire to greatly increase the output of the very valuable by-products, which are in such urgent need at the moment for the manufacture of explosives and for other uses in the prosecution of our war plans.

\$5,000,000 Iron and Steel Company.

A plan of consolidation has been decided upon by the Dayton (Tenn.) Coal, Iron & Railroad Co. and the Matthews Iron & Steel Co. of Rome, Ga., into a new corporation known as the Dayton Company of Dayton, Tenn., and chartered with a capitalization of \$5,000,000. Organization details are being considered, and the managing officials will be announced soon, with plans for an expenditure of \$100,000 for improvements to the various plants.

The Dayton and Matthews properties have been appraised at \$3,969,000, and they are located in Rhea county, Tennessee, and Gordon and Walker counties, Georgia. They include the following: Two iron furnaces, 374 coke ovens, 27,000 acres of coking coal land, 4000 acres coal land, limestone quarry, 17-mile standard-gauge railway, 7 locomotives, 94 cars, river steamboat, 2 barges, 200 dwellings.

New York capitalists will be interested in the new corporation, and it is understood that their ultimate plans contemplate the early development of the properties to their utmost capabilities for the mining of coal, the production of coke and the manufacture of iron.

The Pratt Library, Baltimore.

The Pratt Library, Baltimore, which, in addition to the central library, has nineteen branches scattered throughout the city, reports for 1917 that during the year there were circulated 661,431 books to 45,158 borrowers, besides which there were 51,859 books and 48,562 magazines used. There was a total of 662,747 visitors to the library and its branches. The total number of books is 355,817, an increase of 16,868 during the year. Of this total more than 204,000 are in the central library, the rest being in the branches. Since the library was opened in January, 1886, it has circulated a total of 18,434,204 volumes. The library is governed by a board of trustees, of which Charles J. Bonaparte is president. Bernard C. Steiner is the librarian.

Expansion of Japanese Government Steel Works.

[Extract from Japan Advertiser, forwarded by Consul General George H. Seldmore, Yokohama, November 24.]

The draft estimate for the Government steel works for the coming fiscal year includes some large credits which are required for a further extension of the plant, besides that required for the third enlargement of the works voted by the Imperial Diet in the last session.

During 1918, it is proposed, 4,499,900 yen (\$2,243,200) will be appropriated for the realization of the ex-

tension program. An additional expenditure of 2,644,940 yen (\$1,317,500) also is sought to hurry up the completion of the third enlargement.

The Government, in addition to these projects, proposes to appropriate 10,000,000 yen (\$4,985,000) more for the Government steel works for the coming year. This is necessary, according to official opinion, for the realization of another and independent scheme at the Government plant.

The War as Viewed by an Aggressive North Carolinian.

S. A. JONES, Waynesville, N. C.

I have spent most of this year in New York and New England working to interest capital in the development of Western Carolina. It is around New York, Boston and Philadelphia and Baltimore that you more fully realize than anywhere else, I reckon, that this country is actually engaging in the most colossal and remarkable war the world has ever witnessed.

I have been a close observer of the war feeling, and I have been much surprised on my return home to hear even ex-Confederate soldiers express pro-German sentiments here in North Carolina in such language, if used in New York and Boston would cause immediate arrest and trial for treason.

It would seem that thoughtful men, after watching this war for the time that it has been going on, would be thankful to God that the United States has gone to the front and would realize that we have not gone one hour too soon.

Kaiserism means servitude to every human on the face of this earth in whose blood there is not German blood.

How any American can read of the cruel murder, it is not even the decency of assassination, but the open, wilful murder of unarmed, helpless women, men and children as it has been going on with the Armenians and with our own home loved ones when we were trying to maintain peace with Germany and not be aroused is amazing.

Germany is depopulating countries that she can get her army into in order to repopulate them with German blood, and the American who is so simple as to carry the thought that this nation is strong enough to live unto itself and keep the world forever from American soil is in need of a guardian.

From what I have seen, I don't believe America has even reached the border line of high taxes that she will have to meet before this great war is over. I am something of a history student, and the only earthly hope for America to save this land from being bathed in blood is to send armies enough to England and France and to their allies to wipe out the principle for which Germany is fighting.

Any boy or girl has but to realize, after what has already happened, that Germany in its imperial power hates America, and its hating her worse every hour this war lasts.

A true American has but to fix in his mind the thought that if Germany should win it would mean that Germany has at her command not only all her allies, but at her command the resources of all her enemies, and the American who can dream that America, single-handed, could hold out long is without philosophy in his make-up.

There are no less than from 2,500,000 to 5,000,000 men with German blood in their veins in this country, and more than 25 per cent. of them are heart and soul in sympathy with their Fatherland, and their hope has been not only to Germanize Europe, but to Germanize America. Anyone can see that many of them are hoping no good to America, and if there is a day that they believe American democracy will not be able to stand and that Germany will be able to win, there is enough German influence in this United States, along with the other nations that are co-operating with Germany, to start rioting in every city of 20,000 population in this nation.

The American who don't believe that it is his duty to go to Europe and stand shoulder to shoulder with England and her allies to fight America's battles on European soil when they have the opportunity, instead of at home, is unfaithful to the sacredness of his fireside.

Never in the history of all this world has a nation

lent its sanction to the enforcement of motherhood without marriage except Germany, and the American that stands with the principles of Germany today stands for the prostitution of the women of his own fireside.

Some have said that the MANUFACTURERS RECORD has been too bitter in its denunciation of Germany's methods. There is no language strong enough for a proper denunciation. The time will come here, as it did with the Confederacy, when the boys from 14 to the men of 65 will be called, because more than 5,000,000 of our boys and men will cross the water before this war is over, and it is going to require a large standing army to protect America at home against the sympathetic pro-German citizenship of this nation.

Congress is revealing facts that the world shouldn't know in order to arouse American patriotism to the realization of the grave conditions we are facing. Germany knows that we even have not yet manufactured the arms requisite to equip the little army we now have in France. She knows it will take two years at least for us to equip an army of 2,500,000 men to cross the ocean, and she knows that she can hold her ground until we do, and she is making every effort to force a peace treaty before America can reach the front and save our Christian civilization and a world democracy.

American mothers and fathers will not realize, nor will the real fighting spirit of all America be aroused until our brave boys are being shipped back here filling our graveyards and our hospitals, and crape begins to darken our homes, as it is certain to do in practically every county on our American continent, and the quicker America can marshal an army big enough to go over with our European friends and rush to a conclusion this bloody war, the fewer will be the homes that will be saddened.

To send our men over there in handfuls is but to feed the misery and the sorrow of the hearts of American homes, and concur in every word that the MANUFACTURERS RECORD is saying to arouse the fighting patriotism of America.

Du Pont Engineer for \$60,000,000 Plant.

The Du Pont Engineering Co., subsidiary of E. I. du Pont de Nemours & Co., Wilmington, Del., has been engaged to supervise the construction and organization of the \$60,000,000 explosives manufacturing plant which the Government is building at Hadley's Bend, near Nashville, Tenn. This engineer has been engaged by the War Department, and will operate the plant for six months after its completion.

Recently the MANUFACTURERS RECORD published all details of this enterprise which the Government is establishing and included a reference to 5000-acre site, plant buildings to cover 2000 acres, several thousand dwellings for employes, etc. The Thompson-Starrett Company of New York is the plant contractor.

Big Automobile Assembling Plant.

Government officials have awarded contract to Edward O. Scheideheim & Co. of Chicago for the construction of the numerous buildings required for the big automobile assembling plant which the War Department will establish at St. Helena, near Baltimore. The facilities are for the use of the Quartermaster's Department, and it is reported that the buildings, with their equipment of machinery, will cost approximately \$2,500,000. Government architects have completed the plans and specifications, which are understood to call for the erection of 75 buildings.

Trade Acceptances.

A pamphlet entitled "Practical Questions and Answers on the Trade Acceptances Method" is to be issued soon by the Irving National Bank, New York City, and its circulation is expected to contribute substantially to the campaign of education in the general use of trade acceptances, which are claiming so much attention throughout the country. It explains in detail the method of using trade acceptances and also the many advantages to be derived from a general use of them.

How Castor Oil Produced in the South May Save the Nation

SOUTH TO PLANT AT LEAST 200,000 ACRES IN CASTOR BEANS AT REQUEST OF WAR DEPARTMENT.

[Special Correspondence Manufacturers Record.]

Daytona, Fla., January 31.

It is conceded by military authorities that the war America and her Allies are waging to save civilization is to be won in the air. To this end, the United States is preparing for the construction of an air fleet of 22,000 aeroplanes, in which are to be installed the new Liberty motor designed by the best internal combustion engineers in America, who pooled their knowledge and experience with the aid furnished from the results achieved by the Allies' engineers in order to assure a type of gas engine that would surpass anything that could be accomplished through individual effort. Since the development of this motor experts, after exhaustive tests, found that the Liberty motor, like others of its type which run at excessively high speed hour after hour, requires a special oil for its lubrication. Without an oil that will thoroughly lubricate every part of the delicately adjusted mechanism, this powerful engine would soon pound itself to pieces. The oil must be one that will not carbonize, it must form a thin film over every bearing surface, it must flow under all conditions of atmospheric pressure and work equally as well under excessive heat at high speeds as under the freezing temperature of high altitudes.

The only oil that has so far been discovered to answer every purpose is nothing more nor less than ordinary castor oil, the kind we all became familiar with in our childhood. Its use as a lubricant is not a new thing, for before it came into service as a lubricant for airplane motors it had been used on engines of racing automobiles for several years.

Upon the decision of the experts that castor oil was essential for the operation of the Liberty motor, it became evident that the production and stock of all the castor oil in the world would not begin to answer our needs for the large number of airplanes we are preparing to construct, much less to supply oil for those of our Allies. So it was up to the United States War Department to get busy and develop this agricultural product on a larger scale.

To produce castor-oil beans, from which the oil is pressed, requires a mild climate and a long growing season. Castor beans have been raised in small quantities in different parts of the South in former years, more for show purposes than anything else, though 30 years ago a castor-oil mill was operated in Texas, using locally grown beans. Oil was produced to the amount of several hundred thousand gallons, but with the development of the mineral oil lubricants the planting of castor beans dropped to practically nothing. In order to get the seed for this year's crop we had to import them from India. Because of climatic conditions, the Government has had to turn to the South to furnish its castor-oil supply and the War Department has called upon the Southern States to plant 200,000 acres in castor beans, which will develop an entirely new industry to this section.

But the problem confronting the War Department was how to get so large an acreage under cultivation by early spring and get farmers to plant a crop that they knew nothing about. As the Government could not deal direct with individual growers, who could plant but an acre or so each, it was decided that the whole 200,000 acres required by the War Department this summer should be apportioned to the States most suited for castor-bean production and then for the department to make a contract for several thousand acres each with responsible persons or concerns in the several States. These contractors are to subcontract with individual growers. This method of creating this entirely new agricultural development was adopted also with the idea of preventing speculators from driving the price of the beans beyond all reason and to make sure of its supply the needs of the Government were contracted for. The Government has allowed to the contractor \$3.50 a bushel for the beans, and is guaranteeing to the grower or subcontractor \$3 a bushel f. o. b. at the nearest local weighing and forwarding center.

By some the 50 cents a bushel which the contractors

are to receive from the Government is thought to be excessive. The Government, however, took into consideration that this is an entirely new undertaking which requires the establishment of organizations for the purpose of carrying on a campaign among the farmers in order to get them interested in the growing of this unfamiliar crop, an inspection every two weeks of the acreage under contract and reports to the Government, cost of superintending the working, picking and handling of the beans of individual growers cultivating as few as an acre or two, until the crop is turned over to the Government after being cured, thrashed, weighed and shipped to a central point. In order that the Government might be protected, contractors are required to give a bond of \$1 per acre for the amount of their contract. The grower is protected, if he is dealing through the Government's contractor, by the guarantee by the Government of \$3 a bushel for the beans at a local forwarding point.

The South has been asked to furnish the castor beans needed to supply the oil necessary for the War Department's demands, because, like cotton, castor beans require a long growing season. The South can do it for two reasons: First, it is a good business investment, and second, as a matter of patriotism the South must do its duty in this as it is doing in increasing its production of foodstuffs and in supplying cotton and other materials vital to the successful conduct of the war. Whether or not we can produce the castor-bean oil for our airplanes and those of our Allies might mean the difference between winning the war or becoming a slave of Germany. To mention in the same breath castor oil and the great war seems to be turning from the ridiculous to the sublime, but the raising of castor-oil beans to save civilization reminds one of the nursery rhyme that the King was lost, all for the want of a horseshoe nail. We must have castor oil, so the experts say, before we can hope to conquer Germany through the air. This is the patriotic side of why the farmers of the South must grow castor beans.

Let us look at the business side of it. The Government has contracted for the planting of 200,000 acres in the South in castor beans. The Government has guaranteed a price to the grower through the contractors of \$3 for every bushel of castor beans raised on this contracted acreage. The castor-bean plant is said to be about as near a weed as any plant, and it grows as easily, requiring little expense for seed, fertilizer and cultivation. The beans for planting are furnished to the grower through the contractors, which are required to sell them at cost, probably \$4 or \$5 a bushel. One bushel will seed from 15 to 20 acres. The cost of raising the beans runs from \$15 to \$30 an acre. In return, the Government offers and guarantees a price of \$3 a bushel for the beans after they are picked and dried or cured. This, it is estimated, will mean probably \$50 to \$100 per acre gross. It is said that on the poorest land in the more northern States of the South, where the growing season is short, a minimum of 15 bushels to the acre can be produced, while in the rich soils and in Florida, where the growing season is longer, probably a crop of 50 to 60 bushels per acre can be obtained. If the plants are not touched by frost, as would be the case in parts of Florida, they continue to grow and can be cultivated for several years. Owners of young orange groves and other fruit trees in the South are urged to raise castor beans between the rows, as the castor plant will protect the young trees in the winter and afford a partial shade in the summer without interfering with the growth of the fruit trees.

From these figures the South will have added to the value of its agricultural products this year from the castor bean development probably over \$12,000,000 in a crop entirely new and one that can only be successfully grown in this section. The farmers who come to the aid of the nation in furnishing castor beans will be well paid for their patriotism.

The Government has contracted with several interests to have 35,000 acres planted in Florida, through

Mr. B. L. Hamner, general development agent of the Seaboard Air Line Railway Co., Norfolk, Va., and Howard Curry, assistant development agent, at Jacksonville, 10,000 acres for North and West Florida; D. C. Gillett, Tampa, 10,000 acres for Southwest Florida; G. G. Ware, Leesburg, 5000 acres for Lake county, and Helm & Walker, Miami, 10,000 acres for the East Coast from Volusia county south. These agents are vigorously at work throughout Florida making subcontracts with farmers and landowners who are willing to plant castor beans. In other parts of the South work is also being pushed for the development of the same industry.

HOWARD L. CLARK.

Texas May Plant 100,000 Acres in Castor Beans.

Austin, Tex., January 30.—[Special.]—According to advices received by the State Department of Agriculture, the appeal of the United States Government for an enormous increase in the production of castor beans, in order that the demand for the oil from the product for use as a lubricant in the new Liberty motor may be supplied, will meet with a wonderful response on the part of the farmers of Texas. It will not be surprising, it is stated, if more than 100,000 acres in Texas are devoted to this new crop this year. It has been demonstrated in a small way that the yield of castor beans in Texas runs from 40 to 60 bushels per acre, with perhaps 50 bushels as an average, as compared with an average yield of about 30 bushels in the more northern parts of the country. If there should be 100,000 acres planted this season it would mean a possible yield of about 5,000,000 bushels. In view of the fact that the Government has promised the prospective growers that it will pay \$3.50 per bushel for the beans, delivered at the nearest railroad station, the incentive for embarking in this new crop production is very great.

As an evidence of the probable magnitude of the industry, the announcement recently came from Washington that the United States Department of Agriculture has entered into a contract with Lon C. Hill, a large planter of the lower Rio Grande Valley, with his home at Harlingen, to grow 10,000 acres of castor beans this year. At a meeting of the farmers of Bexar county, in which San Antonio is situated, held a few days ago, pledges were signed for the planting of 10,000 acres of the new crop. Similar action has been taken by the farmers around Pearsall and of other localities of South Texas.

It is claimed that the soil and climate of South and East Texas are splendidly adapted to the growing of castor beans. As a matter of fact, this product was extensively grown in East Texas about 35 years ago. With the discovery of mineral and other oils, the demand for castor oil decreased to such an extent as to make the industry no longer profitable, it is stated.

In South Texas, where the farmers are co-operating with the Government in the proposed growing of the castor beans, the land that is to be devoted to that crop must be first selected and passed upon by agricultural experts of the United States Department of Agriculture. Each farmer is required to give a bond at the rate of \$1 per acre as an evidence of good faith and guaranty that he will use his best efforts to utilize the seed which the Government is to sell him at cost to the best possible advantage. Payment for the seed may be made out of the first proceeds from the sale of the crop.

It is known that castor beans are drought resisting and that they are well adapted to the more Western portion of the State, where the rainfall is often too little to produce the more standard crops.

Reaping What We Sowed.

W. E. CLOW, President James B. Clow & Sons, Chicago.

Permit me to be one of the number to commend your article in the issue of January 18 Bulletin. May I direct your attention to J. S. Bache & Co.'s letter of January 19? They quote from a letter I wrote them on receipt of their letter for the preceding week. The people of the United States are reaping just what they have sown. They could not expect to starve the railroads for years and then have them respond in such an emergency as now confronts us.

Southern Ports Will Be Used To Relieve Northern Freight Congestion

COMMITTEE ON SHIP CONTROL GIVEN FULL POWER TO HANDLE SHIPPING—WILL BREAK UP CONGESTION AT FROZEN PORTS BY DIVERTING CARGOES SOUTH.

[Special Correspondence Manufacturers Record.]

Washington, D. C., February 1.

Fully realizing the utter impossibility of shipping the tremendous exports of the country through the port of New York, the Government has at length taken steps which will insure the use of the Southern ports to their fullest extent.

With freight piling up on the railroads for miles outside of New York and snow and zero weather delaying receipts of bunker coal while vessels are lying idle in the harbor, conditions demand immediate relief if the program of supplying the Allies and the American troops at the front is to be carried to a successful conclusion. A greater use of the splendid facilities of the Southern ports is accepted by Government officials as the solution of the problem.

With the purpose of breaking up the wall of freight congestion encircling New York, and preventing a repetition of the clogging, representatives of the United States Shipping Board, the Railroad Administration, the Army and Navy, the Food and Fuel Administrations, and the Allies held a conference with Chairman Edward N. Hurley of the Shipping Board on January 30, and from this meeting was evolved the Committee on Ship Control.

P. A. S. Franklin of the International Mercantile Marine, and formerly of the Shipping Committee of the Council of National Defense, was made chairman. The other members are H. H. Raymond, controller of the port at New York, and Sir Cunnop Guthrie, export director for the British Ministry of Shipping.

The committee is not another of the advisory bodies without executive power. It has full authority to allocate tonnage in any part of the United States, and is empowered to settle all operating questions with the Allies and the Army and Navy as well. In this centralization of authority, which pools all the shipping interests of the United States and the Allies, officials see a great stride toward speeding up the war, while the results which will undoubtedly be derived from the diversion of traffic to Southern ports cannot be underestimated.

Chairman Hurley and members of the Committee on Ship Control stated to the representative of the MANUFACTURERS RECORD that the process of diverting freight will begin at once. The Southern ports will be utilized to their full capacity. Each port, it is planned, will be made the shipping point for the products of the adjacent territory, and shipments from inland sections will be dispatched to the seaboard points requiring the shortest railroad hauls.

Incoming vessels will be directed by wireless to ports where cargoes can be secured, and the Committee on Ship Control will see that the cargoes reach the proper destinations at the time required. Congestion from loaded cars will in this way be largely overcome.

Cotton, for example, instead of being shipped to New York, where it will add to the freight tangle and may lie at the docks for weeks awaiting available ships, will now be sent direct from the Southern States through the ports of Savannah, Charleston and Brunswick. It will be the function of the Committee on Ship Control to see that the railroads handle this cotton without delay; that the necessary vessels are dispatched to the ports to receive it, and that the navy provides the convoys for the transatlantic trip. The committee will also assist in securing expeditious unloading of vessels at European seaports, so that the supply of returning ships may always be kept up to par.

The plan of operating this shipping pool, with its control by one central body, has been used in Great Britain since the time when, through experience and governmental investigations, a greater co-ordination in the conduct of the war was secured. The British Government has long sought to obtain representation from the United States at the inter-allied chartering conference, and in effect the Committee on Ship Control will constitute such a conference on this side.

That the plans of the committee provide for the tardy use of the Southern ports indicates that officials have at length awakened to a realization of the neglected port resources of the country. It is not believed that the Government will ever attempt to again force all the exports of the country through the "neck of the bottle" at New York. A delay, such as that which has been encountered at New York, results in a loss of tonnage which the nation can ill afford at this time.

That the British officials responsible for the shipments to the allied countries abroad have realized the futility of this effort sooner than the men in this country is evidenced in the greater use which they have been making of the Southern ports. During the past month there was an increase of approximately 40 per cent. in the shipments of grain for Great Britain through New Orleans, and the other Southern ports are beginning to share in this activity.

Food Administrator Hoover in a statement made last week said that 50 per cent. of the exports of foodstuffs from this country were now being diverted to Gulf ports, where they are being handled with entire satisfaction.

The belief expressed in some quarters that after the cessation of cold weather and a break in the freight congestion is secured the tide of shipment overseas will return to New York was not confirmed by Chairman Hurley and the members of the Committee on Ship Control. It was pointed out that one of the aims of the committee is the elimination of long hauls, and that in consequence all ports will receive their share of tonnage, even when weather conditions are more favorable in the North. The fact that the majority of Southern ports handle their freight without lighterage is another feature which commends their use to shippers. Lighterage charges at New York represent a considerable expense in making shipments.

Under the systematizing of the Committee on Ship Control it is expected that the War Department will make use of the Southern ports in the transport service. Of the 1,500,000 men Secretary Baker proposes to send to France within the next few months, a large percentage are now being trained at Southern cantonments. The expense and time lost in transporting such an array of soldiers and camp equipment to the North for embarkation is apparent, and ports which are within a short distance of the camps may be utilized.

The inclement weather which has hampered shipbuilding at the Northern yards to a large extent has had but little effect upon the industry in the South. Numerous ships are being launched, and, with the diversion of freight, will be able to receive their initial cargoes as soon as completed, without the delay of going to other ports for loading.

The United States has also just acquired 70 large steel ships from Holland, which it is intended shall be used largely in the South American trade. With this additional tonnage, and direct control by the operating committee which is to sit permanently in Washington, the outlook for an improvement in the shipping situation is brighter than for months past.

The appointment of L. W. Baldwin, vice-president of the Central of Georgia, and Charles L. Capps, vice-president of the Seaboard Air Line, as aides to C. H. Markham, director in charge of railroads in the Southeastern States, is another step in the right direction toward the management of traffic in that section. Experienced men will be needed to handle the great increase in freight which will shortly be diverted from the customary channels to the Southern roads.

The functions of the Committee on Ship Control will not disturb the operations of the Shipping Board, according to the statement of Chairman Hurley. Edward F. Carry, director of operations, will deal solely with the ships of the board, and will turn over vessels to the committee as soon as chartered.

The plan for the central ship control has yet to be ap-

proved by the British Government and the other allies, but officials have received the assurance of Sir Cunnop Guthrie and Sir Richard Crawford of the British Embassy that this will be forthcoming. Approval of the neutrals is not necessary, inasmuch as neutral ships operated by the United States and the Allies are operated under charter.

FOR \$14,580,000 GOVERNMENT CONTRACT

Plans Completed for Ketler-Elliott Steel Shipyards at Pensacola.

Officers have been elected and plant details have been determined for the shipyards of the Pensacola (Fla.) Shipbuilding Co., recently mentioned as organized by the Ketler-Elliott Erection Co. of Chicago to undertake its \$14,580,000 Government contract for ten steel ships. A. C. Ketler is president, with M. G. Elliott as vice-president and Paul P. Stewart as secretary, all of Chicago. The shipyards will represent an investment of \$645,000.

A site has been obtained on the eastern shore of Bayou Chico, and the necessary improvements prior to launching vessels will include the dredging of the bayou and the replacing of a county bridge with one having a draw for ships. An expenditure of \$48,000 is required for initial improvements, ensuring the location of the plant, and this amount will be furnished by Pensacola business men. The plant will include shops, slips, ways, offices, dwellings for employees, etc., and the mechanical equipment will include a sprinkler system for fire protection. About 1000 men will be employed by the completed yards, and the first ship is expected to be launched by December.

The contract with the Emergency Fleet Corporation, which the Government owns, calls for the construction of ten fabricated steel ships of 9000 tons dead weight capacity. Each vessel will cost \$1,458,000, and will be equipped with a steam turbine engine for driving at a speed of eleven knots per hour in deep draft, the total amount of the contract being \$14,580,000. For each ship there is required 3133 tons of steel comprised in 1800 tons of plates and 1333 tons of shapes. This tonnage has been ordered from the American Bridge Co. of New York.

Newcomb Contracts Now \$12,000,000.

An additional contract amounting to \$3,000,000 has been obtained from the Government by the Newcomb Lifeboat Co. of Newport News, Va., increasing its total to \$12,000,000. This latest contract is for the installation of the machinery in 25 of the 3500-ton steel ships which are being constructed in various shipyards, under contracts with the Emergency Fleet Corporation controlled by the Government. The Newcomb plant will receive the vessels as completed and place the mechanical equipments in position at Newport News. In order to facilitate the work the company will build a pier and wharf extending 1000 feet on Sunset Creek, and the Government will dredge the channel.

New Shipbuilding Company in Savannah Gets \$3,000,000 Contract.

Savannah has landed a new \$3,000,000 shipbuilding contract, bringing the ships built or building at our port from \$12,600,000 in value to \$15,600,000. This contract was awarded to the National Shipbuilding & Dry Dock Co., whose yards are located near the western end of Hutchinson's Island. The contract calls for the construction of twelve steamers and barges, and it is understood the contract was made with the United States Government.

The company owns 406 acres of land on the western end of Hutchinson's island, above the Seaboard bridge, with 8000 feet water frontage. About \$55,000 has been spent on the site. One set of ways was built before the contract was awarded. Since then a second set has been about half completed.

The company is backed by Savannah capital, with Savannah men as its executive officers. It is strictly a local company.

Officers of the company, which was incorporated some months ago in Savannah with a capital of \$300,000, are: R. S. Salas, president; H. Hodgson, secre-

tary and treasurer; Frank H. Meader, superintendent. Messrs. Salas and Hodgson are Savannah men. Mr. Meader is from Portland, Me., and has had much experience in building ships.

This is the fourth shipbuilding company in Savannah, and the third which is strictly a local concern. The other local companies are the Savannah Engineering & Construction Co. and the Georgia Shipbuilding Co. The fourth concern, which is building 20 composite steamers for the Government, is the Terry Shipbuilding Corporation, of which Edward F. Terry of New York is president.

Shipbuilding News of the Week.

A drydock capable of accommodating 10,000-ton ships will be built at Savannah by the Government, and the contract for its construction has been awarded to the Terry Shipbuilding Co. of Port Wentworth, Ga.

The Foundation Company of New York proposes to build a plant for constructing steel ships, and is investigating water-front sites at Baltimore. It advises the MANUFACTURERS RECORD that plans on this proposition have not yet matured to the extent that information is available regarding the enterprise.

NEW OIL WELLS IN TEXAS.

Even Old Spindle Top Joins in New Production—Prospecting in Rio Grande Country.

Houston, Tex., February 2.—[Special.]—With the passing of labor troubles in the Gulf coast oilfields the industry has taken on a brighter hue than for several months, according to the statements of the leading operators. Oil production in the different fields is already showing good increases, and with the additions that are being made to the drilling outfits it is expected many new wells will soon be adding their yields to the output. It is regarded as significant of the improved conditions that there were more completions during the month of January than for several months. As an incentive to an enlargement of operations good producers continue to be brought in at greater depths in the older fields, while the original discovery field at Spindle Top is showing remarkable evidences of revival. Only a few days ago a well of 200 barrels daily flow was brought in at a depth of 800 feet at Spindle Top. Of course, in the heyday of almost fabulous production in that field a well of this capacity would have received very little attention, but it is regarded as a good strike now. The daily production of Spindle Top is steadily mounting up, being now more than 1400 barrels.

Oil operations continue to be centered at Goose Creek, where there has been a widening of the producing area recently. It is the largest producing field in the Gulf coast territory, and promises to continue to occupy that distinction for some time to come.

The total daily production of the Humble field is now close around 16,000 barrels and of the Sour Lake field about 10,000 barrels. One of the new wells at Humble has a daily capacity of 400 barrels.

The new oil field near Cuevitas, in Starr county, about 18 miles north of Roma, on the Rio Grande, is attracting much attention on the part of the larger operators. It is stated that more than 1,000,000 acres of ranch land, situated in the vicinity of the two producing wells that have been brought in, have been leased for their possible oil rights and that several drilling outfits are now putting down wells with the view to determining the area of the oil strata. Comparatively little has been made public in regard to the depth at which the oil sand was struck in the two wells that are now producing. It is stated, however, that each well is less than 1000 feet deep, and that the capacity of one is about 400 barrels and the other 800 barrels per day.

The shallow well field around Brownwood, in Central Western Texas, has been greatly widened by successful wildcatting during the last two weeks. Arrangements are well advanced for providing storage, transportation and marketing facilities for the production of that field.

The difficulty that is being met with in obtaining casing and other equipment has hampered prospecting operations all over the State.

The United States is now the only country that can supply the world with motor vehicles.

Use of Sulphur in Fertilization

By COURTENAY DE KALB.

Several articles on this subject have been published in the MANUFACTURERS RECORD, and have excited wide comment. At the same time, efforts have been made by persons, some apparently of Teutonic sympathies, to throw discredit upon the statements contained in them, despite the authority of many of the most noted scientific agriculturists in this country and abroad as to the remarkable effect produced by dressing soils with 300 to 400 pounds of raw sulphur per acre, under proper conditions. Recently the MANUFACTURERS RECORD gave a summary of the results obtained by Dr. J. G. Lipman of the New Jersey Agricultural Experiment Station, in which he showed how to utilize sulphur in compost heaps for the double purpose of stimulating the fixation of nitrogen and for producing soluble or acid phosphate from raw phosphate rock. His method consists in mixing with the organic refuse, manure and other suitable materials a certain amount of raw phosphate rock, raw sulphur and soil. The soil is necessary to furnish a normal home or culture-medium for the micro-organisms that are responsible for the oxidation of the sulphur and for those bacteria needed for working over the nitrogenous matter in the manure and refuse, so that it may be assimilable by plants, and finally for other bacteria that are responsible for fixing more nitrogen out of the air.

This is a feature of great interest. The result of using the raw sulphur, in combination with soil and abundant humus, is to oxidize it with great rapidity, or, in other words, to turn it into sulphuric acid, and to do this in the presence of raw phosphate rock, whereby the same reaction is obtained in the compost heap that is utilized in the factory by the manufacturer of superphosphate. This is accomplishing the very thing that Charles Pankin tried to do many years ago in South Carolina when he made a fertilizer out of raw phosphate rock with 5 per cent. of sulphur. Pankin did not use enough sulphur, nor did he insist upon following up the treatment of the soil year after year with more sulphur. If he had, it is beyond doubt that he soon would have established the value of the method for soils rich in humus, and containing lime, either naturally or through additions in the form of burnt lime, crushed limestone or marl.

Dr. Lipman, however, has pointed the way to get immediate results with raw phosphate rock and raw sulphur, and at the same time to effectively work over the organic refuse that is always available on a farm, and thus cheaply to fertilize the soil with a superior dressing, containing the needed phosphates, sulphates of lime and iron and potash and abundant nitrogenous matter ready for the plant, derived chiefly from the nitrification of the organic nitrogen in the manure and refuse and also to a considerable extent from the actual fixation of fresh nitrogen out of the air by the action of the Azotobacteria, whose growth is so greatly stimulated in the presence of oxidizing sulphur. It is to be hoped that this method of effective and inexpensive fertilization, at a time when fertilizers are exorbitantly high in price, will be widely applied.

It is worth while to repeat, however, that in any soil which is naturally alkaline, that is, one containing an excess of lime, whether resulting from the decomposing rock matter of which the soil is constituted, or from the addition of lime in some form, and in which there is enough humus or organic substance, so that it would be recognized as being rich in decomposing vegetable matter, the addition of raw sulphur at the rate of from 300 to 400 pounds per acre will give an enormously stimulated plant growth, such as wheat, beans, peas, squash and any other crop that needs fairly large quantities of nitrogen. This has been shown by many experimenters, a number of the more recent American authorities having been cited in articles in the MANUFACTURERS RECORD of July 5, September 13 and October 11, 1917. The increases in yield have ranged from about 100 to 300 per cent. over what can be obtained without such treatment.

The rôle of sulphur in fertilization may be summarized as follows: (1) It provides sulphates for plant food; (2) it assists in the decomposition of the otherwise insoluble plant nutrients in the soil, rendering them available for assimilation, and (3) it directly stimulates the development of nitrogen-fixing bacterial flora

in the soil. These functions are not performed to anything like the same extent by the addition of sulphates in ordinary fertilizer. The usual fertilizer adds soluble phosphate, which is another of the essential plant foods, where there is abundant material to be had for the making of compost heaps, after the manner explained by Dr. Lipman, the phosphate can be added in a very inexpensive form, as previously shown. In addition to a dressing of this phosphorus-bearing compost dressing, the use of raw sulphur on the soil, with the maintenance of proper alkalinity and the presence of adequate humus and moisture, will give extraordinary results.

Supplementing the above, attention may be called to the general deductions of Dr. P. J. O'Gara, one of the most active experimenters with sulphur fertilization in the United States. He affirms (1) that with an increase of sulphates in the soil (which are mainly plant foods) there is noted a decrease in carbonates; (2) that there is observed a decided increase in available potash; (3) that the stimulated growth of the plant, when treated with sulphur, is accompanied by an absolute increase in the amount of sulphur secreted, and (4) that the sulphur content in the plant is an index to the protein content, that is, high sulphur means high nitrogen, and vice versa.

The above facts I had mainly stated in previous articles in the MANUFACTURERS RECORD, and the proper conditions for securing favorable results with sulphur were also set forth. The following endorsement will therefore be of interest to those who are seeking means to assist their output of farm crops at this time, when every form of fertilizer is not only expensive, but often not to be had at all in the quantities desired. It is a letter from the National Emergency Food Garden Commission, Washington, D. C., of which Mr. Charles Lathrop Pack is president, and of which other members are Mr. Luther Burbank, Dr. Irving Fisher, Mr. Fairfax Harrison and Dr. John Grier Hibben. The letter follows:

"Washington, D. C., January 15.
"Mr. Courtenay De Kalb,
"15 Salvatierra Street,
"Stanford University, California:
"My Dear Mr. De Kalb—Am very much interested in having reprint of your article on the use of sulphur as fertilizer. This has been gone over by our experts, and their opinion is that if the soil is limestone, and if there is plenty of humus in the soil, the sulphur will undoubtedly give good results; but that it is of no practical value except to soil having these particular conditions. Assuring you of my appreciation of your kindness in sending it to me and of your interest in the work, I am,
"Very sincerely yours,
"(Signed) P. S. RIDSDALE,
"Secretary."

The foregoing conditions for success are those which I have insisted upon, to which I have always added that round about 12 to 18 per cent. moisture is essential. Below 5 per cent. as an average, no results could be expected. Any practical farmer knows that neither could results be expected with manure unless sufficient moisture were present to permit the bacterial action that renders it useful to the growing crop. It may be well, furthermore, to point out that altogether the most important effect in stimulation would be found when sulphur were used on loamy bottoms which derive their soil from the erosion of regions containing both igneous and sedimentary rocks, particularly from areas of both granitic rocks and limestone. It will be recognized that these conditions are found in large parts of the Blue Ridge country and throughout the Appalachians of the South. When applied under proper conditions, as, for example, to the raising of spring wheat, if the normal yield had been 20 bushels per acre, it is quite certain that the yield will be doubled by previously dressing the plowed land with 300 pounds of raw pulverized sulphur per acre, and then harrowing it in, leaving it some time before seeding. Addition of manure always helps; or the use of any organic refuse, to increase the proportion of decomposing vegetable matter in the soil, will prove beneficial. Without the sulphur, however, no such great augmentation of the crop will be obtained. The 300 pounds of sulphur should cost about \$8 to \$9 delivered. Will 20 bushels of wheat be worth \$9 next autumn? The answer to that question can be given by any schoolboy.

What Is to Be the Attitude of Labor Toward the Government?

[Special Correspondence Manufacturers Record.]

Washington, D. C., February 2.

The labor situation, especially in connection with the manifold and gigantic preparations for conducting the war, is now arousing the serious concern of the National Government and of far-sighted, patriotic men throughout the country.

The fixed policy of the Government toward labor contrasts more sharply day by day with the steadily changing policy of labor toward the Government.

Justice and patriotism marked the Government's attitude as announced last year. Labor then responded through its most important organizations with an announcement of like tenor. But while the workers are repeating their assurances of unselfish, patriotic support, their acts are becoming more and more identified with mercenary selfishness and gross contempt of the public welfare. Indeed, to the charge that many men at the shipyards are deliberately neglecting their duty is added the accusation that some men, engaged in the yards and elsewhere on Government work, have lately, at German instigation, become responsible for serious losses through mysterious explosions and incendiary fires.

A misleading statement, quoted recently in print, alleged that Dr. H. A. Garfield, the United States Fuel Administrator, had said:

"The Government will not tolerate any strikes to enforce recognition of labor unions."

At Dr. Garfield's office, however, the MANUFACTURERS RECORD correspondent was told that the quoted opinion gave an inadequate idea of the administrator's official statements regarding labor; that he had advanced no unusual, independent opinion, but that, like representatives of various other Federal agencies, he had merely repeated the Government's attitude as it had been made known through Secretary of Labor Wilson. In general, Mr. Wilson's position has been that no advantage should be taken of war conditions either by employers, including the Government, against labor, or by labor against employers.

On request Louis F. Post, the Assistant Secretary of Labor, elaborated his chief's policy, and therefore the Government's policy, as follows:

"Neither side should take advantage of war conditions to disturb standards already established, standards, that is, relative to hours of labor, the employment of women, the employment of children, etc. If, for example, a shop was already 'unionized' at the beginning of the war, the employer, except by agreement, should not 'de-unionize' the shop; and if, when hostilities were declared against Germany, a shop was not unionized, the employer should not unionize it against the employer's wishes. No check should be placed, however, upon voluntary agreements between employer and employee as to unionizing or disunionizing a shop; nor should any objections be raised against either side's exercising the right to organize. In short, neither side should coerce the other side, during the war period, into making any changes in their business relations or work conditions."

The indirect cause of Secretary Wilson's announcement had been, Mr. Post said, an effort upon the part of two States last year to repeal certain laws regulating the conditions of labor.

In his last annual report Secretary Wilson made the following comment upon the position he had taken:

"It is the policy of this department to acknowledge the right of both employer and wage-earner to organize, but it is also the policy of the department to use its influence against abuse of organization on either side."

"This policy has been justified by the experience of the mediation service of the department. Whenever employers enter into negotiations with organized workers, differences are almost always adjusted satisfactorily. Although both sides have, at times, made demands which, in view of the war, are unreasonable, nevertheless reasonable settlements have been reached when both have come together in a patriotic spirit."

But however reasonable the formal settlements may have been, and however patriotically certain men doing Government work may have continued to uphold these agreements, not a few other workers, according to numerous reports, are speedily trending in the opposite

direction. Their unpatriotic conduct has already ranged from wilful laziness to treasonable activity.

Exorbitant prices have been paid to workmen employed in the construction of the army cantonments. Very high wages prevail at all the shipyards. On the Pacific coast, for example, youths not yet of age are earning at the yards from \$20 to \$30 a week. Competent riveters were receiving on piecework and overtime from \$60 to \$100 a week at the old rates in force before the Federal Wage Adjustment Board recommended an increase of more than 30 per cent.

"These earnings," as has been well said, "no reasonable man will begrudge the workers. In the present emergency, when maximum production of certain products, such as ships, is of supreme importance to the nation, no wage the employers can pay is too high if the worker will, as a return, give the best that is in him."

Too often he has flagrantly failed to give his best. At shipyards building steel ships the riveter, for example, is the man who actually puts the ships together. His pneumatic hammer heads up the steel rivets that hold the steel plates to the ship frame. His work is highly paid, but not highly skilled. On straight "shell" work almost any able-bodied man can become a fair riveter after three months' practice. If the material is on hand the speed of ship construction depends largely upon the speed of the riveting gangs. This speed can be easily determined. The average accomplishment of a riveter is above 400 rivets a day. To exceed 500 rivets a day is not an unusual performance. Yet to be conservative one might say that the average total should be 300 rivets daily, though this total is really 25 per cent. below the recognized standard.

With such a standard in mind, consider the actual performances of various riveting gangs at a Pacific coast shipyard on a certain day last October. A gang, it may be explained, includes a riveter, a "holder-on" and a heater boy. The hardest-working gang among 25 gangs employed that day headed 78 rivets, the slowest gang inserted 16 rivets, the average task was only 51 rivets. Each gang, however, earned the same wages—\$11.10 a day. Had they all been paid by the piece at the accepted standard price per rivet, their pay per gang would have ranged that day from 72 cents to \$2.96. That is, if the 25 gangs had done a normal full day's work they would have driven 400 rivets a gang, or 10,000 rivets altogether, at a cost for labor of 4 cents a rivet. But instead of 4 cents, each rivet cost 21½ cents, and instead of 10,000 rivets being driven at an expense of \$400, 1277 rivets were driven at an expenditure equivalent to \$2175 for 10,000 rivets. In other words, these 50 men and 25 boys, by doing only one-eighth of what they should have done, divided after one day's work \$1675 for which they had rendered no service whatever. Not exactly a patriotic eagerness to further the welfare of the nation.

Charles M. Schwab recently declared:

"In the very near future we must look to the worker for a solution of the great economic questions now being considered. I am not one to carelessly turn over my belongings for the uplift of the nation, but I am one who has come to a belief that the worker will rule, and the sooner we realize this the better it will be for our country and the world at large."

There is no question as to this present socialistic trend, but if the labor element hopes to become the governing power of the future, it should not fail to grasp the present opportunity for a whole-hearted support of the war. The slightest tendency toward the corruption of its integrity, either through the influence of slackers within, or the German agents without, will result in a disaster as overwhelming as that of the Russian Bolsheviks.

On his recent visit to Washington for the purpose of "speeding up the war," Colonel Roosevelt, always a champion of fair play, warned both employers and employees that the vital importance of expeditious work at this time cannot be overestimated. "No man," he declared, "is to be excused if he fails to do his best toward getting the utmost efficiency." He strongly urged that employers reduce their profits merely to those necessary

to run business with advantage, but on the other hand employees, he said, should be held to their responsibilities like soldiers, with no shirking that will mean the limitation of productiveness. Labor should remember that an ample wage demands ample work in return.

Col. Roosevelt further said: "Tolerate, neither from employer nor from workingman, neither from the man of big fortune nor from the strongest labor union in the country, neither from the biggest corporation nor from the wealthiest private individual, any practice during this war that interferes in the smallest degree with the speed and efficiency which it is necessary for us to show in making ready to enter the war."

The business men of the country have responded with enthusiasm to the country's call. Labor is now to have a chance to show its mettle. In the coast-to-coast drive which the Department of Labor has inaugurated for the enrollment of a reserve of shipbuilders, the loyalty of the workers will receive an early test. To meet the present demands and the future needs of the shipyards of the United States 250,000 shipbuilders will be required. That number should readily be enrolled as volunteers.

If this registration falls short, then the laborers of the country will have shown that they are working merely for personal gain, without thought of the nation's welfare or the good of humanity. It is not conceivable that such a condition will be revealed. The American workingman, it is believed, will resent the possibility of such an aspersion upon his loyalty. But the close of shipbuilders' registration week will show conclusively whether he has allowed himself to be misled by the insidious workings of the cheap agitator and the sinister propaganda of Germany, or whether he has arisen to demonstrate his devotion to the national ideals.

BIG STOCK FARM FOR FLORIDA.

520,000 Acres of Prairie Land for Cattle Ranch on Kissimmee River.

One of the many important new enterprises to be established in Florida this year, one that is of especial interest in connection with the activities in various States for increasing the meat supply of the nation, is the big stock farm which the Kissimmee Cattle Co. is establishing. Some 520,000 acres are being developed, 300,000 acres on the east side and 220,000 acres on the west side of the Kissimmee River being now under fence. This acreage is prairie land located in Osceola, Polk, De Soto and Okeechobee counties, the development camps being situated about 65 miles below Kissimmee, Fla.

Several hundred thousand dollars are being invested for the initial improvements and for stock, there already being 25,000 head of cattle with 300 Hereford and Brahma bulls in the pastures. These pastures will not be the company's entire dependence for feeding the stock, as 4000 acres have been apportioned for growing feedstuffs. This 4000 acres will be drained and engineers are now surveying preparatory to the construction of drainage canals on the east side of the river. On the west side a large tract will be developed for general farming to feed the hundreds of men who will be employed. Contracts for home buildings for the construction workers and the permanent employees after the ranch is operating have been awarded to Arnold & MacDonough of Kissimmee, who are progressing with their activities. Six bungalows, with fireplaces, electric-lighting equipment and water supply, are nearing completion, these buildings to cost \$3000 each. Among the other buildings being erected is a power-house to furnish electricity for supplying the ranch water and electric-lighting systems and for an ice factory which will be constructed. Other improvements in progress include the construction of roads and cattle-dipping vats, about 50 men being employed on this work. The ranch is being established on what has for years been known as the Jack Whidden property and the Kissimmee Cattle Co.'s manager in charge of the numerous betterments is W. F. Ward, formerly associated with the United States Bureau of Animal Industry at Washington.

W. S. Wilson, the secretary of the North Carolina Council of National Defense, proposes the mobilization of the 60,000 automobile owners in North Carolina as an organized force in the construction and maintenance of public roads.

Sulphuric Acid and Its Relation to Agriculture*

It would be interesting to trace back the effect of the war upon numbers of industries. Take the automobile industry, for instance, and its effect upon the sulphuric-acid industry. It is a fact that money made as a result of the stimulus of the war upon manufacturing in the United States has made it possible for a greater percentage of the people to buy automobiles, and these machines demand, of course, more crude oil for fuel and for lubrication. This increased demand, along with that of the increased use of oil in the industrial operations for building the cars, has resulted in an increased use of the oil resources of the United States. Since sulphuric acid enters largely into the refining of these oils, the acid industry has been called on to measure up to this demand.

If the Southern complete fertilizer maker had been able to secure potash from some place other than Germany, and Southern fertilization had been practised as in normal years, there would have been in the aggregate such a demand for sulphuric acid that there would have been no hope of meeting it. If it had not been for the aid of the Southern fertilizer manufacturer in diverting his acid output from the fertilization of soil to the needs of other industries, we would not have had our present industrial activity. The Southern soil, however, cannot weather more than a few seasons of partial fertilization. The increased demand for cotton, both as a result of industrial activity and the manufacture of smokeless powder and gun-cotton has forced the Southern cotton-grower to wonder what will happen in the coming year if he fertilizes so little as he has for the past two or three years. The three plant foods that are essential in a fertilizer are available potash, available nitrogen and available phosphorus. The only real potash comes from the Stassfurt mines of Germany, although the United States is now producing some low-grade material in Nebraska. We of the United States have the real supply of phosphate rock, and in normal times are easily able to make more than enough sulphuric acid to take care of any demand that may be made of its acidulation. With the potash supply from Germany cut off and with the acid supply utilized some other way, the Southern cotton-grower has been compelled virtually to do without. This year he is beginning to think that something strenuous should be done, because high prices of cotton and food make fertilization imperative for the reason that a good yield per acre cannot be hoped for unless some potash and acidulated phosphate rock are supplied to the soil. This, in turn, will stimulate a further intensified production of acid, if such is necessary, and I rather expect this demand for fertilizer will keep on intensely, even though the war will have removed the demand for acid for the making of explosives. In other words, after allowing Southern soil to go for two or three years it will probably take more than the normal yearly supply to rehabilitate it.

Sulphuric acid is one of the raw materials entering into the manufacture of most other chemicals, notably nitric acid, hydrochloric acid, salt cake (which is used in the plate-glass business), blue vitriol, green vitriol, almost all organic preparations, artificial leathers, combs, reclaimed rubber, electrical insulators, etc., and one could indefinitely elaborate upon the effect that new industries and the stimulation of increased activities in all lines of business have had on its production. Suffice it to say that it has all resulted in causing an increase of plant capacity so greatly in excess of what apparently can be used after the war is over that some manufacturers are already concerned. Operators will consider it advisable to keep plants running as long as possible before shutting down, since it is well known that an idle sulphuric acid plant deteriorates much more rapidly than does one that is running.

For the future, I think the general trend will be to relegate acid manufacture to those engaged in the metallurgical industry. I think there will be a gradual decline in the practice of pyrites-burning, and incidentally brimstone, for the express purpose of making sulphuric

acid. From an economic point of view this would be probable, for the reason that it would seem undesirable for one part of the country to be wasting thousands of tons of available sulphur gas while another part is spending millions of dollars for the purchase of sulphur-bearing material, when a large part of the latter comes from a greater distance than would the acid if it came from the point at which it is being wasted. If we could properly impress the railroads with the advisability of hauling this commodity at rates more comparable with those of other commodities used in equal tonnages and having approximately equivalent values, we might secure a better commercial condition. If this equalization is not practicable, I think there will be a general trend of acid-consuming industries toward the territory at which sulphuric acid may be cheaply produced as a by-product in a manner similar to the trend of industries demanding cheap electrical power to the Niagara Falls district.

Production of Lime in 1917.

The estimated production of lime made and sold in 1917 in the United States, including Porto Rico and Hawaii, was 3,663,818 short tons, a decrease of 10 per cent. compared with the revised total for the record year, 1916, which was 4,073,433 short tons. It surpassed, however, all records previous to 1916. This estimate is based on returns made by the principal producers to G. F. Loughlin of the United States Geological Survey, Department of the Interior.

Of the 42 producing States only 11 reported increased sales. Virginia and Indiana were the only States in the group having sales of more than 100,000 tons to show increase, which amounted to 1 per cent. and 3 per cent., respectively. Other States of this group showed decreases ranging from 5 per cent. (Pennsylvania) to 36 per cent. (Wisconsin). Vermont, with an output of 53,143, showed an increase of 23 per cent.

The following table shows the estimated output of all States that marketed more than 50,000 short tons:

State.	Total lime. Tons.	Per cent. change.	Hydrated lime. Tons.	Per cent. change.
Pennsylvania	921,995	-5	151,253	+16
Ohio	511,687	-10	332,475	-5.5
Virginia	329,368	+1	(*)	-5.6
West Virginia.....	242,643	-10	41,390	-14
Missouri	186,024	-7	28,654	+17
Wisconsin	171,944	-36	12,800	-25
Maryland	132,644	-16	24,285	-24
Massachusetts	128,114	-12	(*)	-35
Indiana	124,788	+3	23,993	+5.7
Maine	115,297	-33	(*)	-11
New York.....	105,728	-10	8,736	-20
Tennessee	100,370	-8	15,330	+4.7
Michigan	73,432	-15	(*)	+20
Alabama	65,971	-2	7,186	+6
Connecticut	65,327	-23	(*)	+41
Illinois	63,476	-20	(*)	+11.8
Vermont	53,143	+23	(*)	+141.5
California	51,697	-9	(*)	+9.6
Texas	51,275	-5	14,416	-1
Other States.....	168,895	59,229
	3,663,818	-10	719,757	+2

*Included in "Other States."

The estimated sales of hydrated lime in 1917 amounted to 719,757 short tons, a slight gain (2375 tons, or 0.3 per cent.) over the sales shown by the revised figures for 1916. This difference is so small that the final figures may not show a gain. This is the first year since statistics of hydrated lime have been collected by the Survey in which there has been no substantial gain in its production. The fact that hydrated lime held its own, however, during a year in which the decrease in the production of lime was so general indicates a relative increase in its use. No companies reporting sales of hydrated lime in 1916 failed to report sales in 1917, and two new hydrating plants reported production, one in Arkansas and one in Idaho. The largest percentages of decrease in the production of hydrated lime shown in the foregoing table were made in States whose product is used largely for building.

The prices of lime, which generally increased in 1916, continued to rise throughout the country in 1917, though not in proportion to the continued increase in cost of production. A few companies in widely sepa-

rated parts of the country were obliged to close their plants, partly on account of excessive costs, but particularly because of shortage in fuel and labor. These conditions and a shortage of railway cars caused decreased production even where the demand for lime was reported good.

The building-lime trade declined in all parts of the country. The unprecedented demand for building lime in 1916 continued until February, 1917, when the effects of the war, augmented in some Northern districts by severe weather, brought it to a close. A fair to good demand continued in many districts, however, through the spring, and then a general decline in building set in. This decline was due to the uncertainties of war, to increased shortage of labor, fuel and cars, and to the fact that, lime being perishable, the trade would not order large car lots as demanded by the railroads.

The demand for lime by chemical and metallurgical plants surpassed that of the previous record year, 1916, and the demand by paper mills and tanneries apparently also appeared good. The sales of agricultural lime increased in some districts and decreased in others, owing mainly to the difficulties attending manufacture and to shortage of farm labor.

The Southern States—those south of the Potomac and the Ohio and east of the Mississippi—produced 762,000 tons of lime in 1917, which was nearly 5 per cent. less than in 1916, all States except North Carolina showing decrease. This quantity included 73,000 tons of hydrated lime, a loss of 6 per cent. This loss was due to decreased production in West Virginia, which more than offset gains in Alabama, Florida and Tennessee. Prices were uniformly reported higher, though no remarkable increases were mentioned. About three-fifths of the producers reported a decline in the demand for building lime, especially in the last half of the year. One company in Tennessee attributed the decline mainly to lack of cars, which prevented the supplying of a good demand. Another company in Tennessee had to close in December owing to lack of coal. Practically all producers reporting sales of chemical lime stated that the demand in 1917 was as good as or better than in 1916. About two-thirds of the producers reported a decrease in the sales of agricultural lime, the others reporting them the same or improved. Two producers reported good demand but inability to supply it owing to shortage of fuel and labor. Two producers reported decrease in lime sold to sugar factories.

The Southwestern States, including Arkansas, Oklahoma, Texas and New Mexico, produced 73,400 short tons of lime in 1917, 5 per cent. less than in 1916. Arkansas' estimated production, however, showed an increase of about 300 tons. Hydrated lime was produced in Texas and Arkansas. Increased prices were reported by all producers. The building-lime trade, slightly improved in Arkansas, was somewhat poorer in Texas. Two producers in Oklahoma reported large increase in sales, but the State as a whole showed a large percentage of decrease. The demand for chemical lime improved in Texas and Arkansas; that for agricultural lime improved in Arkansas but declined in Texas.

The Earth Is the Kaiser's.

[Wall Street Journal.]

Leon Dabo, artist and interpreter from the front, told a New York audience that the Huns were obsessed by the doctrine of Divine Right; and that on the fly leaf of the Testament which every Hun carries is a quotation from Joshua: "The Lord shall deliver thine enemy into thy hands."

In a town "somewhere in New Jersey" is a mother of two boys "somewhere in France," with a third boy, under age, aching to get there. In the house with a servant of German descent, she read the last letter from the front, and the conversation on the war ended with the statement from the German-American maid of all work:

"Remember that the Good Book says you must 'Give to the Kaiser the things which are Kaiser's.'"

The Bible familiar to some Americans reads "Render unto Caesar the things which are Caesar's." The German Bible translates Caesar into Kaiser, which is really the same root word. In the revised 1892 Lutheran Version, Matthew 22: 21 reads: "So gebet dem Kaiser was des Kaisers ist."

*Extract from paper in Metallurgical and Chemical Engineering by Lewis B. Kinner, Vice-President and General Manager, Western Chemical Manufacturing Co., Denver, Colo.; Consulting Chemical and Metallurgical Engineer, Central Construction Corporation, Harrisburg, Pa.

The War and the Germans as Viewed by Our Readers

How One Man Would Like to Conquer Germany.

FRED T. LOFTIN, Indianapolis, Ind.

The ambition for conquest among the German people was caused chiefly by land-hunger and desire for expansion. Germany was hemmed in and desired greater opportunities for commercial and agricultural activities. The people of Germany have begun to doubt a realization of these dreams for expansion from their own bungling masters at home. The civilized governments should appeal to these hopes for expansion under free governments. There are parts of Texas in which convincing proof can be found that Anglo-Saxon freedom is preferable to German governmental methods. Alex. Sweet published in his "Through Texas on the Back of a Mustang" a quarter of a century ago an account of the change to American citizenship by Germans colonized in that State by the Imperial German Government with the idea of erecting a separate German State in the United States. He gave an example of how a German can be "denatured," as Abe Martin would say, under American environment. Fritz Schimmelpfennig had been a peasant in Germany. He became popular in his Texas town and was elected mayor. Fritz yearned to visit his old home in Germany. When he returned to Germany he exhibited a box of cigars, a present from General Grant. That a former peasant should be on such excellent terms with General Grant was derided as a colossal fabrication by the residents of the German village. Fritz remarked that Germany never would amount to much until the military autocracy had been overthrown. Then he got plenty of attention. It took the efforts of the American ambassador for several months to release him from jail. He returned to the United States thoroughly denatured of his "Fatherland" traits and was never thenceforth a good hyphenate—only a good American.

Only recently the German authorities caused many Russian soldiers to desert by distributing from airplanes literature which urged each to seek his share in a division of the land. This did much to demoralize Russian discipline.

Benjamin Franklin understood the powerful incentive of land hunger. When the people of the British Isles refused to enlist to fight the Americans, the German George III bought the services of Hessians. Franklin induced the Pennsylvania Legislature to offer 100 acres of land to each Hessian soldier who would desert. Thousands accepted the offer.

With hunger for food, hunger for land upon which each may become independent in producing food will become stronger among the German people. Germany has lost more territory in Africa alone than that occupied by Germany at the beginning of this war. Why should not the entente governments repeat Franklin's successful experiment? It could be done by dropping the offer from airplanes behind the German lines and in the German lines, printed, of course, in German. It would probably be impracticable to offer this land in territory under the American flag. American workingmen now fear a large immigration of workmen from tax-burdened Germany at the close of the war. Although desiring to escape this mountain of taxes in Germany, many of the better informed realize the dislike of the German race this war has fostered in all parts of the world. This they could escape in colonies of Germans settled under free governments. This would remove the menace of Germans working for less than required by Americans in this country to maintain American standards of living.

Why not use against the German autocracy some of its own weapons? The Christmas message of the Kaiser was again that of the mailed fist. Had Germany authority over the millions of subject races the entente powers have in their territories, Germany would doubtless have employed many of these in her armies. Let us demoralize the forces of the Kaiser in the same manner that the Kaiser's agents used to demoralize the forces of Russia. An argument with 80 or 100 acres of land tied to it will be found the most convincing of all arguments to the greedy, disappointed German people. It will show the right spirit on the part of the entente, and, as in Texas, will civilize a lot of people now generally and perhaps justly regarded as barbarians. Pennsylvania and Texas both show the won-

derful transformation that can be made into good Americans and industrious, valuable citizens. It is worth trying.

Abe Martin said that the brightest people in Chicago came from Indiana, and that the brighter they are the quicker they come. Paraphrasing this, may it not be also true that the best people have already left Germany, and that the better they were the sooner they got away—if they could? Probably a good many thousand more on presentation of the argument above mentioned might prefer freedom in other lands.

The Spirit of Patriotism Needs to Be Awakened in Farm and Mountain Districts.

B. S. BARKER, Vice-President and General Manager Gainesville & Northwestern Railroad Co., Gainesville, Ga.

I was much gratified to see your notice as to the patriotic stand being taken by the students of Brenau College, located in our city. Gainesville is measuring up to every demand placed upon us covering the efforts of our Government to whip this fight to a finish.

Your periodical can be considered the best exponent of what our aims should be in bringing order out of chaos. Each issue proves an inspiration to every American to put his shoulder to the wheel and push just a little harder. What a pity it is that our mountain people could not have the benefit of your intelligent and helpful information published every week. I regret to say that the young men from our farms lack patriotism. They act as if they have suffered an injustice whenever our exemption boards allot them to Class 1, which means service in the army. I am opportuned almost daily by one of these young men to help them escape army service. My appeals to them in the way of explanation that they should consider it a great honor to do their part in this battle for the world's freedom seems to fall on deaf ears. Nine-tenths of this attitude on the part of our country people is the result of the slanderous Watson doctrine that was sent broadcast throughout Georgia. This publication has been throttled, I am thankful to say. The young men in our towns and cities are not slackers, and can be counted upon to make intelligent fighters.

I wish you Godspeed in the splendid work that you are doing for true Americanism!

Wants a Day of Nation-Wide Awakening of Patriotism.

J. E. VAN HORN, Winston-Salem, N. C.

Enclosed find check for renewal of subscription to MANUFACTURERS RECORD.

I heartily endorse your opinion that there is nothing so important as winning the war, and look on the MANUFACTURERS RECORD as expressing the sentiments of every true-blue American.

In my opinion, there should be a day set aside for a grand nation-wide meeting of schools, churches, etc., so as to provide a way to bring an expression from everyone as to their allegiance, so we may classify those for or against.

In us who are native born this may awaken a true sense of the privileges we enjoy and bring to the surface that spirit that has made this the land of the free and instill in us the determination to root out the stranglehold of the enemies in our midst.

Alien Enemies and Pro-German Citizens Should Be Rigorously Handled.

W. R. JORDAN, Radford, Va.

I am much pleased with your good paper and with your patriotic devotion to our God-blessed free country. I am right with you on your war propaganda. I don't think you are a bit too hard on this alien set in America. For these hell hounds, that are over here from Germany to make money and get rich quick and desecrate our beloved flag, hell would be a paradise. Any American-

born citizen who will trample our flag under his feet is worse than a German, for it would be natural for him to love his own country; but when a German comes here and makes one of us, he should be loyal to our flag or return to his native country.

The devils that are destroying our property should be shot at once.

Germany must be subdued, and shall be. We should put forth all the brain power, all the man power and all of the finances of the United States, and if that isn't sufficient to win, we must get down on our knees in deep humility and pray to the God of Hosts to fight our battles for us. As for myself, I would rather be dead and in torment than under German rule.

Food Saving Suggestion to Help Win the War.

W. W. VINCENT, Freedom, Okla.

When the people of the United States, as well as most of the world, are striving to conserve food, we should all do the most possible to help.

Here is one way we can help to a great extent: If when we eat beefsteak we will cut the meat from the bones, leaving the bones in a clean, sanitary condition, it will surprise those who have never tried it what an amount of good soup they will make. Instead of throwing these beef bones to worthless dogs, let's kill the dogs and make mittens of their hides—another saving.

Save the beef bones—

To make soup.

To win the war.

To serve humanity.

Impossible to Speak Too Strongly in Denunciation of "Hellish Brutes."

B. P. ROACH, Missionary to China, returned, Baptist State Board of Missions, Louisville, Ky.

I am intensely interested in what I have been reading in the MANUFACTURERS RECORD about America at war with Germany. You cannot possibly express sentiments against those hellish brutes too strongly for me. Keep after them.

I travel over the country some, and occasionally have an opportunity to speak on this great world crisis; hence I read all I see on the subject, and talk it every day.

Helping to Win the War.

GEO. F. MONTGOMERY, President Dare Lumber Co., New York.

I am pleased to hand you our check covering our subscription. It is always a pleasure to pay for our subscription to the MANUFACTURERS RECORD, as we invariably receive full value in return.

The superb work you are doing in helping to win the war should be appreciated by and have the sincere thanks of all Americans and their allies.

Banking on Established Reputation.

E. J. SECHREST, Chief Accountant the Lake Shore Shale Brick Co., Ashtabula, O.

I am very much interested in getting hold of a copy of Rev. Newell Dwight Hillis' lecture, and am enclosing you 26 cents, for which send me two or three copies—whatever it will buy. I have no doubt that I will order 100 copies. If the MANUFACTURERS RECORD says it is all right, it is just so.

Hurry them to me, please.

Potent Factor in Ending War.

R. E. GRADEL, Secretary Chamber of Commerce and Agriculture, Gaffney, S. C.

Enclosed please find our check for \$5 to cover subscription.

I believe the MANUFACTURERS RECORD is one of the most potent factors in the United States toward bringing this war to a successful and permanent end.

Need of Radical Changes in Munition Handling Clearly Pointed Out

Kern Dodge, a widely-known engineer of Philadelphia, has become so impressed with the need of changes in Washington that he has issued a letter to a number of business men, in which he says:

"Practically all of the members of your organization are interested in seeing the production of munitions organized upon an efficient basis under a civilian head. This matter is now being seriously discussed in Washington, and as those of your members not now engaged in Government work will sooner or later be affected by it, I think you will consider apropos my action in bringing this matter to your attention.

"From our experience in inspection work in connection with munition contracts, supplemented by the investigations in Washington, certain facts have become so impressed upon me that I feel it a duty to suggest what appears to me to be the outline of a plan that will remove many of the obstacles now standing in the way of the supplying of ordnance to our troops. This is an important patriotic movement for the good of the country, and on this basis I am suggesting to you that this is an opportunity for your association to render great assistance.

"I am, therefore, handing you herewith a list of resolutions which appear to touch the high spots and to point the way to the details of the reorganization of the munition supply system, and if you will kindly bring this to the attention of your members, with the view of having the association act upon them at an early opportunity, this will bring the matter to the attention of the Senate committee now making investigations, and it will greatly assist in accomplishing the object sought for, as the investigations now in progress at Washington indicate that there is not a moment to be lost in the rectification of these munition problems.

"There is an awakening at Washington as to the general system which is herein advocated, but it still falls very short of what will be necessary if success is to be assured, inasmuch as it may leave the head, or some of the vital functions, such as inspection, still under military restriction.

"My suggestion that your association give this consideration is the natural outcome of what I have been advocating in the papers of late in connection with a complete civil organization for munition work, and I therefore am hoping that this idea will receive your active support."

With this letter Mr. Dodge enclosed a memorandum giving his reasons for suggesting these changes, as follows:

"Believing that the present time, when the inquiry is proceeding by a Congressional committee as to the apparent shortcomings of the department responsible for supplying munitions to our troops, is the right one to bring forward certain suggestions, I take this opportunity of doing so, under the following headings:

Separation of Munition Production From Military Organization to That of a Civilian One.

"1. In connection with the handing of the responsibility of producing munitions to the new head, all departments and actions concerned with the production should also be placed under the same direction, and this would include all inspection work.

"2. This part of the matter is very vital if the necessary rate, as well as quality, of production which this war calls for it to be accomplished.

"3. A few of the reasons gained from actual experience on this phase may be useful here, as follows:

"a. It has been possible for me to get in close touch with this matter in observing the munitions manufacturers in their efforts to give maximum results in the way of efficiency, quality and quantity.

"b. We have always been proud of the great ability of the various organizations of our manufacturing plants. Their efficiency and efforts to meet any possible demands has been proved to be equal, if not superior, to any other similar institution the world over.

"c. It should therefore follow that when these organizations are called upon to meet war requirements

they are just as capable and, if possible, made more so by the additional element of patriotism which then enters into their efforts.

"d. No points of design or specifications or details of contracts have been too difficult for them to meet successfully when dealing with any material or finished product for this or the world's markets.

"e. In this work they have had to meet the most careful tests, inspections and conditions, and have done so with credit and satisfaction.

"f. There is nothing in the manufacture of munitions that calls for any higher qualities than those indicated above, yet it is a fact that serious difficulties are met by the manufacturer when producing munitions.

"g. One of these difficulties is met at the stage where inspection takes place. The inspector is supposed to use considerable judgment and action which should be based upon knowledge and experience, but the men used by the Government for this work usually have had little or no experience of the material or article they are inspecting. They therefore rely upon their interpretation of the specification entirely, in which case the human element is all that is left for them to use.

"h. When to this is added the fact that the inspectors are in uniform and under military rule, it should easily be seen how little even the 'human element' can be of service, on account of restrictions each man in these conditions works under.

"i. Whatever breadth of mind or individual action these men may have been capable of displaying in their ordinary commercial life is now discounted by their being obliged to act in a narrow groove.

"j. Again, the fact that they now hold a military position tends to create in their mind an attitude of adverse criticism, which usually results in their preferring to build up a reputation of rejecting rather than accepting.

"k. I believe that one of the serious difficulties the manufacturer is working under today would be overcome if the inspectors were a part of a civilian organization, and not a military one.

"l. The best-known inspection organization today is that of Lloyd's, whose inspectors are men of experience and mature age. Many of these men would not pass military tests of fitness as to measurements, weight or age, and under our military system they would not receive appointments as inspectors, as the military requirements would be placed first and paramount. Lloyd's inspectors are able to exercise good judgment in the work they perform and are given considerable freedom to act upon their own initiative in this work, and I venture to state that if the men accepted were suddenly installed as a military unit and placed in uniform with the consequent restrictions that go with this branch, they would lose at least 50 per cent. of their efficiency and usefulness. Therefore, should any man be transferred from the present military organization to the new civilian munition department, he should drop title and uniform while so engaged.

"m. Another point in this connection is that the manufacturer has not been accustomed to deal with the military spirit in his plant, and would be disposed to act in a more natural and efficient way if the inspector or inspectors placed at his works were civilians instead of military men, especially if he recognized that the civilian inspector was deserving of that respect which goes with knowledge and experience.

Properly Experienced Men Engaged in All Branches of Munition Production and Inspection to Be Paid in Accordance With Their Ability.

"1. The head of the munition department should employ men only who are fully experienced and capable and who give their entire time and undivided attention and interest to the work.

"2. These men should be paid a proper salary and be held responsible for results, as in any walk of industrial life. I do not believe that these qualities can be found in men who offer their services in a voluntary way, as this is likely to prove unsatisfactory, indefinite,

and lacks the probability of team work and co-operation.

Newspapers to Be Allowed to Criticise the Subject of Munition Management and Production in a Healthy Way as an Industrial Matter.

"1. Taking the production of munitions out of the hands of the military and placing it into that of a civilian organization brings this into line as an industrial matter and leaves open the progress and actions for healthy criticism by the papers, without feeling that they are criticising purely military matters, such as army movements, men, etc.

America's Munition Producer.

"1. I believe a man should be appointed by the Administration at once who is the exact 'fac-simile' of Lloyd George of England, who saved the munition situation for that country. A man who would restore confidence to the people of this country and to our Allies, as well as instill enthusiasm in all directions and bring a healthy realization to our enemies that we are putting our backs into this thing.

"2. His position as head of the munition production should be free from politics, and he should have entire control of these vitally important matters.

"3. The investigations now going on should proceed, and the results, when known, should be handed over to the munition department to be made proper use of, but as the committee's work is likely to be of some long duration, it should not hold up for one moment the appointment of a head for the munition department, so that this matter can go on regardless of the investigations."

Coal and Coke Production Still Hampered by Car Shortage.

The weekly report on the production of bituminous coal and the causes of loss of working time, compiled by the Geological Survey, Department of the Interior, under date of February 2, says that a recovery from the depression of the week before left production during the week of January 26 still far short of normal. The weather was cold, but the snow falling over most of the fields was not heavy enough further to impede transportation. The total bituminous production (including lignite and coal made into coke) was 10,018,000 net tons, or 1,670,000 tons per working day. The rate approximates that of a fortnight ago during the first week of the depression, when the daily average was 1,689,000 tons.

The production of beehive coke did not share in the recovery made by the bituminous industry as a whole. The total production for the week ended January 26 is estimated at 491,000 net tons, an average per working day of 82,000 tons. The extraordinary depression, was attributed to shortage of coke cars. The losses ascribed to that cause alone amounted to 36.8 per cent. of the rated capacity.

The total production of by-product coke dropped from 361,451 net tons to 319,524 net tons in the week ended January 19. Fifty-one out of the 53 by-product plants now in operation produced in all 65.9 per cent. of their capacity under full operation. The same companies in 1917 produced 97 per cent. of the entire output.

The continued depression affecting the entire coal industry was thus reflected in the course of by-product coke. Failure of the railroads to deliver coal was ascribed by the operators as the cause of losses of potential capacity amounting to 23.7 per cent. Losses due to necessary repairs amounted to 3.6 per cent.; those attributed to "all other causes," to 6.7 per cent. Inadequate transportation remains the principal factor limiting the production of by-product coke; failure of car supply at the mine mouth is reflected in failure of the carrier to deliver coal at the by-product plant. In all States, except Maryland, Washington, West Virginia, Missouri and Wisconsin, the ratio of tonnage produced to maximum capacity declined during the week of January 19; in Alabama it fell from 89.4 to 77.4 per cent.; in Illinois, from 61.8 to 44.1 per cent.; in Indiana, from one-half to barely one-third of the maximum capacity.

Th recovery of by-product ammonia, light oil, benzol and toluol was probably more seriously reduced than the production of coke itself, because of the lower grade of coal which many of the plants have been compelled to accept.

News and Views from Our Readers

Sad, Sad Fate! He Has Lost Confidence in Manufacturers Record! Will Someone Help Us?

W. P. FERGUSON, Memphis, Tenn.

I have always held the MANUFACTURERS RECORD in the highest esteem, and regarded them as being one of the most reliable sources of information regarding industries throughout the South until you took it upon yourself to show to the country the imaginary injustice that was being inflicted upon the sugar producers of Louisiana. As I traveled all over that territory, I believe I am better informed as to real conditions than you are, and as you are altogether wrong or misinformed, my confidence in you as being reliable authority began to decline rapidly.

Your present stand against the War Department has strengthened my belief that you are not so accurate and unselfish in your motives as I supposed you were. Your present stand cannot possibly do any good, and you are lowering yourself in the estimation of a great many people that held you in high esteem.

[It is only too true that we have lowered ourselves in the estimate of all pro-Germans and all hide-bound partisans who care more for their party than for the lives of our soldiers.—Editor MANUFACTURERS RECORD.]

Patriotic Literature for Mining Camps—An Example Others Might Well Follow.

J. C. TURLEY, Assistant Manager Pocahontas Fuel Co., Inc., Pocahontas, Va.

We have received the 100 copies of Dr. Hillis' pamphlet and the 100 copies of "America's Relation to the World War." Our company operates a number of coal mines in Tazewell county, Virginia, and Mercer, McDowell and Wyoming counties, West Virginia. It is our intention to place a supply of these pamphlets at our various local offices for distribution to those who will be interested.

No Time to Ask Whether a Man Is a Democrat or a Republican, But Only Can He Do the Job?

H. C. COLE, Chilhowie, Va.

We feel that the time has come when every patriotic man should make up his mind that the winning of the war is his first and highest concern.

Our people are not awake to the fact that this is a personal and intimate concern of every man, woman and child in the land. Because we have not felt the pinch of want, have not suffered the loss of property and life and other untold horrors which have come upon the people of the war-stricken countries abroad, we have not lost our belief that none of these things will come home to us.

We want to commend your outspoken policy in regard to the failure of some of the men in high places to measure up to the responsibilities of their positions, and we would like to see them replaced with people who can deliver the goods.

We have been lifelong Democrats, and without forsaking our political faith we are in favor of the President bringing into his councils men who have shown that they have the ability to operate the railroads, coal mines and other big enterprises in which the Government is called upon to embark, of giving them power to act, and ask them to give us results and leave out the talk.

It is no time to inquire whether a man is a Democrat or a Republican or to figure whose chances might be helped or injured in the next Presidential election. Let us all pull together in this crisis that confronts us, and we can settle our family troubles after we have made sure that we have anything left to squabble over.

If the country newspapers would publish the address of Dr. Hillis in installments, as they could spare the space, it would bring it to the notice of many people who have never seen it, and would serve to help arouse public sentiment and bring us to realize some of the things that threaten us.

If we could be put upon as efficient a war basis as some of our Allies and all of our enemies, it might

enable us to win victory and peace at half the cost in blood and treasure we may be obliged to pay if we wait until we have these measures laid upon us by the heavy hand of necessity.

Farm labor needs to be mobilized and the production of food for the army carried on like any other arm of the service.

In this part of the country corn was frosted because men could not be found to harvest it. And if we are granted bountiful harvests another season we will see the same conditions, only worse.

If the Governments of other countries in this war can cope with these difficulties, we have men in this country who can put us in as good condition.

If other people have made these sacrifices and are making them every day under conditions that are hard and bitter to the last extremity, it would appear that we, in so much happier and favored circumstances might begin to take up a few of the burdens. A great paper like the MANUFACTURERS RECORD can do so much toward arousing the nation to its dangers and its needs that we hope you will not abate your efforts and that other powerful journals will join with you in carrying on the work. We think you will find your readers are behind you and ready to help, as far as lies in their power.

We wish you godspeed and good luck, and that the good seed you are sowing will bring forth an hundred-fold.

Need Statesmen at Head of Departments Now.

C. W. MCCOY, Grundy, Va.

Hereto attached check for subscription. Please keep the MANUFACTURERS RECORD coming. I have been a subscriber for a number of years, and am always glad to see the MANUFACTURERS RECORD come.

The truths in your editorials stand up like great mountains above the surrounding country. If the country ever needed great statesmen at the head of all its departments, it is at this moment.

Let us pray for greater efficiency. We have accomplished great wonders in the past 10 months, but we have the greatest task confronting us that ever a people has been confronted with in the history of the nations. We need at the head of every department men with brains capable of expansion. If we haven't them there, we should try and find them. It matters not where they come from so they are Americans; that they should be beyond any question.

New Discovery of Mica in Arkansas.

T. J. SHELTON, Traffic Manager the Arkansas & Louisiana Midland Railway Co., Monroe, La.

A large deposit of mica is reported to have been located in Drew county Arkansas, near the line of the Arkansas & Louisiana Midland Railway.

This material is situated near the large natural-gas field along the same line of railway.

War Preparations Should Not Be Slackened on Account of Rumors That Come from Germany.

CHARLES LEONARD FARDWELL, Baltimore, Md.

Let me suggest that you publish in an early issue of the MANUFACTURERS RECORD on the first page:

"A WARNING TO THE AMERICAN PEOPLE THAT RUMORS FROM GERMANY REGARDING HER CONDITION CANNOT BE TRUSTED."

It would be difficult to find more forcible language regarding this point than that used in your pamphlet entitled "America's Relation to the World War," page 43. You state as follows:

"Germany will fill the world with stories about her inability to continue the war, or at least such rumors will percolate through the world from German sources, for the express purpose of causing this country to halt in its war preparations. Do not believe anything Germany says until she has unconditionally surrendered. The game of seeking to deceive us and our Allies will

be played to the utmost extent of the power of German diplomacy."

I do not know whether the rumors concerning the enormous "walk-outs" and "strikes" in Germany are authentic or not, but either way they will have the effect of causing this country to slacken in its war preparations. This seems to be a psychological moment when there is need of such warning.

A United Country on the Same Basis Needed Now.

B. F. WILLIAMSON, Williamson & Dennis, Jacksonville, Florida.

I am especially impressed by the article by Judge Gary. The great difficulty throughout our section is that our daily papers are featuring the small advantages from day to day which the Allies show on a small front. I believe few of our people comprehend the fact that Germany today has such valuable natural resources, which she has acquired in great quantities since the beginning of the war. For that reason they do not realize the big job that is in front of this country. The sooner the whole of us realize that we have practically got to eat at the same table and stand on an equal basis, the better it is for our cause, and the quicker we shall get the full forces of the United States in action. I believe you are doing a very great work in presenting the situation as it exists.

Helpful Co-operation in Work to Win the War.

WILLIAM TEAL, First Baptist Church Sunday-school, Elgin, Ill.

I have read with much interest the two pamphlets which you have published on the war, and I want to help a little bit by passing them on. I would do more if I could. The copies I had were used all the time I had them in my possession, for I passed them around on the train as I travel back and forth between Elgin and Chicago. Your editorials are masterpieces of literature, and I want a copy of each for our pastor, and also our superintendent of the Elgin schools. Please send me three of each of the pamphlets. I am enclosing a check to pay for same.

Keep the good work going on, and you'll surely get your reward. You are certainly doing a great work towards winning the war.

As of Yore, Quality of Service Is not Measured by Contribution's Size.

MISS MARY B. COCHRANE, 4069 Alameda Drive, San Diego, Cal.

Through the kindness of a friend I have had the privilege of reading Rev. Newell Dwight Hillis' "Picture of Germany's War Plans and Her Atrocities in Belgium and France," published by you.

I enclose in this 45 cents in stamps, for which please send me as many copies of the speech as the money will pay for, including the postage. I wish to do an old lady's "bit" for the war by sending this message to as many as my "mite" will reach.

Would Build Up Tank Car Service Between South and Pacific Coast.

RALPH H. HAND, W. R. Grace & Co., San Francisco.

We are shipping regularly large quantities of cocoanut oil and soy bean oil in tank cars from San Francisco East, principally to Chattanooga, Cincinnati, New Orleans, Birmingham, Chicago, Milwaukee, Kansas City, Omaha and other important points.

Desiring to save empty haul on our tank cars returning to the Pacific coast, we are in position to furnish tank cars for loading en route such tank-car commodities as are shipped to the Pacific coast, and will be pleased to get into touch with shippers of turpentine, blackstrap, molasses, liquid ammonia, alcohol, cottonseed oil, peanut oil, corn oil, glucose, etc., with a view to establishing a regular trade to the coast.

FLORIDA'S CATTLE-RAISING POSSIBILITIES.

Texas Ranchman Finds Phenomenally Favorable Conditions, and Predicts Great Future for Cattle Industry.

Jacksonville, Fla., February 1—[Special.]—F. S. Hastings, manager of the S. M. S. ranches, Stamford, Tex., whose properties are a valuable factor in supplying the best class of feeder beef cattle to the corn belt for finishing into the most valuable class of beef, has been in Florida for a few weeks investigating the possibilities of beef production in this State. He gives his conclusions as follows:

"I do not believe that any State in the Union has a greater single undeveloped asset than that which Florida has in the opportunity for the development of increased beef and pork production, both from a standpoint of large pastures or intensification into small tracts. I estimate that there are probably 15,000,000 acres in Florida which are not being utilized for either cattle or hog production that have a carrying capacity of at least 3,000,000 head of cattle, and I will not pretend to estimate the number of hogs, as they must be in a sense auxiliary on a large tract, but certainly a very appreciable factor in the matter of value.

"These cattle are now in a primitive condition; in fact, Florida is about where Texas was 35 years ago, both as to its undeveloped area and its primitive cattle, but based on a few crosses with pure-bred beef strains and the fact that the whole of Europe must be restocked by America after the war, and that the production of cattle in America is now inadequate, these cows graded up have a reasonable hope of being worth \$50 per head, possibly more.

"By the introduction of good bulls a wonderful change can occur in three years, a revolution in six years, and in twelve years a race of cattle which will compare favorably with the graded herds now furnishing the great bulk of feeders for the best beef purposes.

"I believe your ranges will carry more cattle than any I have ever seen. Before coming to the State I asked that I might see as many classes of cattle as possible and in as many different parts of the State as possible. My first trip was with Mr. Burguières to the Everglades and over properties in Palm Beach county. I then made a trip near Gainesville and visited the registered Hereford herd owned by Mr. N. A. Callison, also the graded herd of both Herefords and Shorthorns owned by Mr. A. L. Jackson, Gainesville; then the pure-bred and graded Shorthorn herd owned by Mr. S. H. Gaitskill of McIntosh. Then followed a four-days' careful trip over the properties and herd of the Kissimmee Island Cattle Co., where I saw Brahma cattle, Hereford cattle and Shorthorn cattle of various grades and a herd of Florida cattle bought last year; then over the Indian prairie country, the Osceola prairie country and the marsh country of Okeechobee, giving an unusually good opportunity for seeing the cattle scattered over the open range and to observe conditions on the open range. Probably the most important thing I saw in Florida was the registered Hereford herd of Mr. Callison. I recall that he boasted that in eight years they had never been given a winter feeding, and there were no evidences on his property that the cattle were in any way pampered.

"He had about 30 to 40 of last year's calves, which he was just weaning, and they were as good on the average as any bunch of calves I have even seen in registered Hereford herd-breeding districts. I saw his yearlings, his twos and his cows, and the entire herd showed a developed quality and a very favorable comparison with anything in the great breeding districts outside of the distinct show herds.

"If the climate can produce these registered cattle without help, and if they make a favorable comparison with cattle in the great registered breeding grounds in other parts of America, there is no reason why beef cattle cannot be produced, which in turn will make a favorable comparison with those on the great pasture breeding grounds, which in turn are furnishing the feeder cattle for the corn belt.

"On Mr. Jackson's place I found both grade Herefords and Shorthorns with three generations of splendid development and quality, and I found in his registered herd of Shorthorns good quality and development. His graded cattle, all the way from half-breeds up to seven-eighths and in mixed threes and fours ages, all by registered bulls, weighed 900 pounds off the grass last fall.

"At the home of Mr. Gaitskill we found both pure-bred and grade Shorthorns and a splendid object-lesson in a half-bred cow known as 'Old Blue.' Her dam was a primitive Florida cow and her sire a pure-bred Shorthorn bull. Then we saw her daughters and their daughters, and I remarked to Mr. Gaitskill that he could lie a little about one heifer, as she had absolutely every appearance and all development of an absolutely pure-bred Shorthorn.

"You have a progressive Legislature to help in the work of development and an adequate law for tick eradication, with a State Live Stock Sanitary Board to administer it, so the development of the industry is simply a matter of enclosed areas and the development of water to make them carry their capacity. Water can be developed at one-third of the cost of that in any other country I know.

"As a summary you have every natural advantage in your favor, and it is simply a matter of investment for enclosure, for the development of water on an average of every two miles, and the eradication of the ticks to have the world make a path to your door for feeder cattle or finished beef. As an addition to your wonderful range country you can produce the velvet bean, the Japanese cane and other concentrates to fatten everything you produce."

Industrial Activities South.

During January the Construction Department of the MANUFACTURERS RECORD published 3759 items relative to industrial developments, building, financial and railroad operations and general business interests of the South and Southwest. These items appeared in the Daily Bulletin and in the weekly issues of the MANUFACTURERS RECORD, and are summarized, under their proper headings, in the following table:

Industrial and Developmental.	
Airplane Plants, Stations, etc.	2
Bridges, Culverts, Viaducts.	22
Canning and Packing Plants.	22
Clayworking Plants.	5
Coal Mines and Coke Ovens.	113
Concrete and Cement Plants.	2
Cotton Compresses and Gins.	14
Cottonseed-Oil Mills.	4
Drainage Systems.	18
Electric Plants.	57
Fertilizer Factories.	8
Flour, Feed and Meal Mills.	21
Foundry and Machine Plants.	45
Gas and Oil Enterprises.	135
Hydro-Electric Plants.	14
Ice and Cold-Storage Plants.	16
Iron and Steel Plants.	7
Irrigation Systems.	2
Land Developments.	53
Lumber Manufacturing.	74
Metal-Working Plants.	6
Mining.	92
Miscellaneous Construction.	31
Miscellaneous Enterprises.	92
Miscellaneous Factories.	144
Motor Cars, Garages, Tires, etc.	109
Railway Shops, Terminals, Roundhouses, etc.	5
Road and Street Work.	144
Sewer Construction.	37
Shipbuilding Plants.	19
Telephone Systems.	29
Textile Mills.	36
Water-Works.	53
Woodworking Plants.	42
Buildings.	
Apartment-Houses.	39
Association and Fraternal.	32
Bank and Office.	71
Churches.	52
City and County.	38
Courthouses.	13
Dwellings.	225
Government and State.	81
Hospitals, Sanitariums, etc.	68
Hotels.	35
Miscellaneous.	59
Railway Stations, Sheds, etc.	26
Schools.	169
Stores.	143
Theaters.	14
Warehouses.	43
Railroad Construction.	
Railways.	37
Street Railways.	8
Financial.	
Corporations.	53
New Securities.	263
Machinery, Proposals and Supplies Wanted.	491
Fire Damage, etc.	368
Total.	3,759

The MANUFACTURERS RECORD is advised that the Pioneer Cotton Mills' additional building and machinery, detailed last week, will cost \$60,000, and this amount is being provided from the company's surplus and undivided profits. This will be the first installation of looms in this Guthrie (Okla.) plant, and 80 automatic looms, with clothroom machinery, etc., have been purchased through John Hill, engineer, Atlanta, Ga. Ten to thirteen-ounce cotton duck will be woven.

Extensive Use of Cut-Over Pine Lands for Stock Raising Said to Hinge on Solution of Forage Problem.

New Orleans, La., February 1.—Direct appeal to Secretary David F. Houston that he recommend to Congress an emergency Government appropriation making possible experiments for a solution of the forage problem in the South is contained in a letter sent today to the Department of Agriculture at Washington by President Chas. S. Keith of the Southern Pine Association.

Plans for development of the vast area of cut-over pine lands now lying idle in the South are being retarded by a lack of knowledge as to the best types of grasses to be grown for sustaining cattle and sheep, says Mr. Keith.

In spite of this uncertainty, representatives of the National Wool Growers' Association, it is announced, may during the present year transfer a number of sheep from the West to the South. If it is found possible to sustain these sheep satisfactorily on cut-over lands, the basis will be laid for the establishment of an extensive sheep-raising industry in the South.

A committee of the Wool Growers' Association which recently visited the cut-over land district says concerning prospects in the South:

"This country is surely worthy of the consideration of sheep men who are being crowded out of business in the West. If it is found that sheep can be raised on these lands and the summer season is suitable for early lambs for market, there is no doubt a big business can be built up in this country.

"This committee expects to investigate the section further in the summer time and possibly organize a company and put down a band of sheep for the purpose of experimenting. One thing we were disappointed in was the fact that there is no Government experimental station in this vast area of land where one can obtain data on the possibilities of the country."

Mississippi's \$200,000,000 Increase in Farm Product Values.

Jackson, Miss., February 2—[Special.]—From \$102,300,000 to \$311,400,000 is the leap made in one year in the value of five farm products in Mississippi, according to J. F. McKay, market field agent for the A. & M. College Extension Department.

Cotton leads the list with a value of \$165,000,000, while cattle, corn, hogs and creamery products follow in order. The value of poultry and egg shipments show an increase of 25 per cent., while sorghum advanced 60 per cent. in price. Three hundred and fifty cars of potatoes were shipped during 1917 against 100 in 1916, with the average value double. Peanuts increased in amount more than 100 per cent., with a 75 per cent. increase in price. Hay was the only farm product to decrease in quantity, but the increased value overshadowed this.

The northwest counties raised the larger portion of the cotton, while the northern and central counties raised the grain, hay, peas, sorghum and peanuts. The southern counties made no abundant crops, but enjoyed increases in all truck crops, with the lumber trade exceptionally good.

At the present, field peas are selling for \$3 a bushel, corn for \$1.50 to \$1.60 a bushel, hogs from 12 to 15 cents a pound, hay from \$20 to \$30 a ton, and peanuts at \$1.75 a bushel.

The outlook for 1918 is even better, according to Mr. McKay, who predicts the State will eclipse all former records for farm products.

The Cotton Movement.

According to the report of Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, the amount of cotton brought into sight during the past six months was 8,698,818 bales, a decrease of 1,596,392 bales. The exports were 2,607,927 bales, a decrease of 1,149,774 bales. The takings were, by Northern spinners, 1,582,006 bales, a decrease of 349,405 bales; by Southern spinners, 2,979,176 bales, a decrease of 34,040 bales.

Keep the Light On.

[The following from the Boston Transcript is such a clear statement of the importance of a thorough knowledge from an absolutely non-partisan standpoint, of the country knowing the whole war situation that we commend it to the careful study of our readers, and especially of those who are unwilling for anything to be published which in their heated imagination might be interpreted as a criticism of the War Department, and get many of these very people are ceaseless in their criticisms of the Postmaster-General.—Editor MANUFACTURERS RECORD.]

The speech in self-defense which the Secretary of War delivered before the Senate Committee on Military Affairs has not relieved in any degree the responsibility of the committee to the country. That responsibility will grow as the war goes on, and it is well to have its character clearly understood.

Only the cuckoos in the press and public life, who are the ignorant or indifferent dupes of alien agents, dare today to distort that character by pretending to see in every criticism of the conduct of the war only the malevolence of political partisanship.

Outside of cuckoodom the right of the people to regulate the administration of their Government is recognized and exercised. The committee's investigation of the War Department was therefore rightly held among fearless and free thinking citizens as the shouldering of a timely responsibility imposed by an imperative emergency.

The investigation started and has been sustained in a spirit as far removed from partisanship and as fully representative of every corner of the country as is our little army overseas. Senator Chamberlain, the chairman, is a Democrat from Oregon, who has been the champion of the Administration upon the floor of the Senate times without number. Aiding him and approving his course is Senator McKellar, a Democrat from Tennessee, some of whose constituents have died from neglect and inefficiency in training camps in the South. With them also stands Senator Hitchcock of Nebraska, the Democrat who piloted the declaration of war through the Senate, while Missouri's unworthy son, the unfit chairman of the Committee on Foreign Affairs, sat silent and surly in his seat.

Senator Weeks of Massachusetts is a Republican in politics, but he is not in politics today when he thinks or talks about the war. His only son is on active service with the American Expeditionary Force and at the moment is actually at the front. The man or newspaper who condemns as partisan or fails to recognize as patriotic the effort of the junior senator from Massachusetts to find out the truth about the conduct of the war libels the proud father of a brave soldier.

So with most of the other members of the same committee—they have forgotten whether they are Democrats or Republicans in days of peace, and they remember that they are the members of a co-ordinate branch of the Government of a country whose people have coalesced in this crisis.

Having turned on the light the committee will be guilty of a betrayal of its trust as well as of a revelation of the unworthiness of its every member if the brief in his own behalf of Secretary Baker, however bettered its temper or clever its construction or conciliatory the bearing of the defendant, should cause a reconsideration and influence the committee to abandon its duty and turn off the light.

Mr. Baker can probably prove that he has done his best as Secretary of War. That is not the question for which the committee should set out to find the answer. The question involves neither Mr. Baker's integrity as a Democrat nor his intentions as a man. It cannot be answered by totals on paper or promises for the future. Not whether Mr. Baker has done his best, not whether he could have done better, but whether Mr. Baker's best measures up to the needs of the nation and balances his assurances, is the question the country has asked.

It is that question which the committee owes it to the

country to find an answer founded upon the facts developed under the light which Senator Chamberlain and his associates have turned on and which neither the allurements of patronage nor the apprehension of criticism must persuade or prod them to turn off.

If the investigation is abandoned now, if the lid is clamped upon criticism in or out of Congress of the conduct of the war, another investigation and another outburst of criticism will come later, but it will come after long casualty lists have arrived. It will come too late to bring back the life of a single soldier, too late to save a single home from sorrow, too late to make up for a single hour of time lost.

Surely we can profit by the experience of our Allies and set up and adhere to the rule that differentiates a democracy from an autocracy and saddles upon the legislative branch of the Government the solemn duty of holding the executive branch to that strict accountability which is not a feeble phrase, but the flaming sword of a people's will. "Turn on the light and keep it on" is the demand of the country and the duty of the Congress. This is the people's war. They will pay its cost in life and treasure. They are entitled to the truth about it—the truth in time, "the whole truth and nothing but the truth."

No Foreign Language Should Be Taught in Lower Grades of American Schools.

By CHAS. LEONARD FARDWELL, Baltimore, Md.

For a generation the German language and literature have been widely taught in the schools and colleges of this country. In some communities, either by State or municipal action, the study of German has been given the preferred position.

Public schools, formerly English grammar schools, were converted into so-called German-American schools, wherein the German language was not only taught, but was the instrument of general instruction.

In the city of Baltimore, prior to the war, there were 10 such schools, but so much antagonism has been aroused against the teaching of German—and justly so, in view of the unspeakable crimes committed in the name of the German Government—that the Board of School Commissioners deemed it advisable to eliminate the German language entirely from the primary and grammar grades, and it is now an elective study in the high schools of that city.

There can be no reasonable question as to the desirability of teaching foreign languages, German included, in our high schools, colleges and universities, provided there is no ulterior motive behind their teaching.

The selection of the foreign language to be taught in our schools should primarily be based upon the value to the student in after life. Our recent mercantile history has shown us that the principal field for our industrial growth in the future will be South and Central American and the East and West Indies. The principal languages of these countries are Spanish, Portuguese and French. Nothing has pleased Germany more than our preference to study her language to the neglect of the languages of these countries, and the consequent neglect of the enormous trade opportunities offered by them. In addition to the wonderful commercial opportunities which a knowledge of these languages offers us, their literature, their ideals and their concept of civilization and decency are decidedly more in accord with our own.

The French language especially will become more and more popular here, because the ties which already existed between this country and France will be drawn closer as we carry this war on to a common victory.

The student who is well grounded in Spanish or French will be more valuable to himself and the community than the one who simply knows English and German, and the one who is fortunate enough to possess a knowledge of French, Spanish and English can go to any civilized country on earth and get anything he wants, from a cake of soap to a haircut.

We must, therefore, give our young men and girls an education in languages, as well as other branches of study, which will be of practical use to them through life, and with the help of which they can earn a good living.

The value of the German language from the standpoint of science and literature is, of course, debatable, and it would be sacrificing our sense of proportion to ostracize the German language, but there is every reason

why French and Spanish should take at least a part of the position hitherto filled by German.

The German language has not been emphasized so much because of its intrinsic value, but rather as a part of a persistent political propaganda intended to wean the people of this country away from Anglo-Saxon and Anglo-Celtic origins and ideals, and divide their national interest and national sympathy. Wherever this has been attempted, or wherever it may again be attempted, it should be ruthlessly stamped out as a wrong committed against our national unity and our national integrity.

If the country is to have a homogeneous and safe basis for public thought and opinion, its foundation should rest upon a single language, and the single language of this country is English. It is the language of our courts, of our Constitution, of our marts of trade and of our forefathers and their descendants who have developed this country to its present position among the great nations of the earth.

It is not only unwise, but dangerous to the extent of losing our identity as an English-speaking people, to permit foreign languages to be taught in the lower grades of American schools, especially in the presence of the tremendous foreign element in this country. Of the 66,000 high-school pupils of New York city alone, 40,000 are either foreign-born or of foreign parentage. To launch these children into schools in which their native language is taught results in making citizens of foreign nationality rather than American citizens, and their progress in their own tongue will outstrip their progress in English, so that at a mature age their viewpoints and ideals will be those of their native country and not of the United States.

We have always welcomed to our shores the oppressed of every nation, but we have a right to expect from these people and their descendants that they should not only abide by our laws, but should acquire our language and our ideals and become imbued with the spirit which actuated our forefathers in establishing our free institutions. Those who insist upon continuing the hyphen in their name and who refuse to become nationalized in thought, as in law, should be required to return to the country from whence they came, and should be forbidden the privilege of living in this land of freedom and opportunity.

Possibilities of Wood as Substitute for Coal in States of South Atlantic Seaboard.

By M. J. COTHMAN, Rome, Ga.

The same story comes from every source—empty coal yards, empty cellars, closed schools, icy office buildings—shivering and suffering people waiting for delayed shipments of coal to come through the hopeless tangle of transportation.

For the densely populated or treeless and thinly wooded sections of the country, as the Middle and Southwestern States, coal, petroleum or gas are the only sources of relief. But the States of the South Atlantic seaboard should take counsel within themselves and look to their wooded hills for help against such times of need.

There is, perhaps, no country in the world so heavily and variedly timbered as the States bordering or crossed by the ranges of the Appalachian system. In most sections of our own State there is literally wood to burn—enough already down and going to waste on fence rows and back lots to go far toward the relief of immediate needs.

In recent years the Government has turned its attention more and more earnestly to the necessity for wise forest regulations. Right here in the heart of our own hills we should practice the wisdom and skill used in keeping the national reserve forest areas up to required standards. We are under no necessity of sending out a small army of men to broadcast seed over the snow, as in reforesting thin or barren places in the Siuslaw National Forest of Oregon. In this section a timbered lot may be "coaled off" by charcoal burners. If left undisturbed, in one generation, or 35 to 40 years, nature will reclothe the burned area with oak, hickory, chestnut or pine sufficiently mature to be of commercial value.

It has always been a ruinous policy to burn off the woodland. Now it should be a crime, punishable by law.

The output of coal is 50,000,000 tons short of actual necessities. Coal yards are empty. There is wood, wood everywhere, but scarcely a stick to burn, and the price double that of 60 days ago!

CHRIST, OR THE SWORD?

By HENRY A. WISE WOOD of New York.

This is history's gravest hour. Not since Christ stood before Pilate has there been so momentous a trial of moral systems as that which is taking place.

Two theories of life are striving for mastery. A civilization that is the legitimate outgrowth of Christianity, expressive of kindness, good faith and democratic tolerance, is at death's grip with a reincarnation of ancient barbarism, weaponed stealthily by modern science behind a mask of Christ, which has sprung suddenly to the world's reconquest.

Thus the old morality once more confronts the new. The spiritual power enthroned by Christ in the hearts of men is tempted to its overthrow by the gentleness of its faith, while the barbaric conception of rule by force alone, in full resurgence, is poised to slay it with the very discoveries of Christendom.

Into this struggle the West has gone, not for material or political reasons, but for moral reasons. The Christian's heritage is assailed, and we are offering possessions and life in its defense. If the Christian world ever has had need since medieval times to dedicate its all to the duty of snatching the sword from the foul hand of destructive infidelity, it is now. Today the modern crusade is afoot, and in the spirit of crusader America has entered the war.

Those who compute its losses in terms of property or life have no spiritual conception of its costs. The dead will be replaced and the wreckage restored, but not soon the glorious flower-like structure of chivalry, which, honored even by the Saracen of old, has been slowly molding the peoples into a single family, molding them while they fought. Its beauty, which men loved, its strength, in which they trusted even upon the field, and, with these, its usefulness, all born of the heroism of nineteen centuries, have been struck from the Christian era by one of civilization's greatest debtors, now turned renegade.

If, in this crisis, Christendom stand less firm in its faith than did its martyrs in the arena of Rome; if, in its hour of suffering, it be not ready to say with Christ in the garden of Gethsemane, "O my Father, if this cup may not pass away from me, except I drink it, thy will be done;" if, in having said with Him to the aggressor, "for all they that take the sword shall perish with the sword," it hold not faithfully to its oath; if, having forsaken its ideals to make a coward peace that fail to draw the fangs of the serpent power, Christendom take the latter not stripped of its venom, again to its breast, then indeed shall the moral law among peoples pass from use, and all men sleep upon weapons.

Human institutions are again in the crucible. Thence will arise a civilization based upon the spiritual conception of life, or the material. Antagonal codes of morality cannot survive as equals in the same world; one will prevail. If the West have the power and fortitude to endure to the end, and succeed, humanity will ascend to undreamed-of heights of opportunity and freedom; if it have not, and fail, what then shall save both from the craftily directed engineering of this soulless scientific barbarism, that, blasphemously feigning the approval of God to palsy a trustful Christendom, is gathering up the peoples of the earth?

A Workman's Strong Appeal to the Patriotism of Fellow-Workmen.

By PAT. COONEY, St. Charles, Va.

Our country is at war, and man power is at a premium. There is not enough men in the United States to do the work that is necessary to bring this war to a successful termination soon.

What, then, is to be done. Shall we submit to German peace? Shall we submit to militarism and that Kaiserism, or will we get hold of that spirit of patriotism and say we will do our best or die in the attempt?

We are workmen, and should consider that it is just as necessary for us to do our utmost here, just as much and more here while the boys in the trenches are risking their lives for us.

The United States Government must have the coal, and without the coal the war is lost.

The railroads are tied up, the ammunition factories must close and the ships must lie at anchor because there is no coal.

The men on the firing line will raise the white flag for

the want of supplies. So you all see that the question lies in the hands of the coal miners.

Are we going to be slackers? Do we intend for our children and future generations to read from history that this war was lost on account of the men not doing their part by getting out all the coal they possibly can?

The Government and the operators have shortened our hours two on the day and have raised the price to help the men at home and the ones in the war, shortened the hours to see if the production of coal would be raised so we could live easy, and it will stimulate action and the production will be much greater than before.

That was what any sensible person would think, and that is the proper conclusion. But what do the records show? I have been reliably informed that the records here show that the production is less than it was before the new system went into effect.

It is possible that many of you think that if you make a big showing that wages will be cut and our hours lengthened again.

But you may rest assured that this will not happen. This is a war measure, and it will last as long as the war lasts if we do our duty as patriots and if we ourselves show we are patriots. Show it now, and it will last for ever and ever.

For by this act we will show the world that when we are properly treated and paid we will do our duty.

But if we fail to do what we should, there is only one remedy, and that is the Government will take over the mines and we will be forced to work the same as the ones in the trenches.

The Government has the same right to draft men to dig coal as they do to draft them to the trenches. And, my friends, if it is necessary they will do it, but if it ever happens let us all hide and never show our faces, if we should force our Government to take such steps, so please each and every man in this country do his bit. So let this year of 1918 be a big coal year, so, my friends and collaborators, let me beg of you this year that, God helping you, you will never be called a slacker.

This company does not care how large your pay envelope is; the larger it is the better able they are to pay you.

And my friends, and when the war is over and through the days of reconstruction times have always been hard, and if it should happen not to be there may be a rainy day, and now is the time to prepare for it.

So now let us be patriots, and God forbid that we should ever be called slackers.

And if the rest of the country fails, let the records of the old Virginia-Coal Co. show that we are Americans.

Written by a patriotic employe of the Old Virginia Coal Co.

[The foregoing strong call to the laboring men of the country was written by Pat. Cooney, a day laborer for the Old Virginia Coal Co. of St. Charles, Va. It was handed to the company's officers by Mr. Cooney, and they sent it to the MANUFACTURERS RECORD. We do not believe the Government should have reduced the hours of labor for the miners, but except for the commendation of that move, the letter is a patriotic call from a workman to workmen.—Editor MANUFACTURERS RECORD.]

Corpus Christi Takes Commendable Interest in Entertainment for Soldiers.

Corpus Christi, Tex., February 2.—[Special.]—How the Corpus Christi War Service Board has been able to provide community recreation and entertainment for the soldiers stationed here at Camp Scurry is outlined in a letter today from the board to A. A. Fisk, representing the War Department Commission on Training Camp Activities.

"Since its organization, early in December, the Corpus Christi War Service Board, with Mayor Roy Miller as chairman, has been able to perform a real service for the Fifth United States Engineers located in our city," said the report, which went on to say:

"Early in December, through the efforts of Mrs. Roy Miller, chairman of our entertainment committee, we secured a large room in the City Hall, ground floor, that has been fitted up for a downtown headquarters for the sole use of the enlisted men. In this room we have writing tables, reading tables, various games and lots of comfortable chairs and other furnishings, together with a large supply of reading matter, and the men have been told to make the club their very own. We are gratified to report that the club is filled daily, and seems to be serving a real need. On Christmas Day

an ample supply of fruit, candy and cigarettes was placed in the clubroom by the board and the officers and their wives, and the soldiers heartily appreciated this small remembrance of Christmas cheer.

"Another entertainment feature which has appealed to many of the men is the series of dances given at the Nueces Hotel, one each Wednesday night for the enlisted men and on Saturday nights for the officers. No charge is made, the music being furnished by an orchestra from the regiment.

"The War Service Board is giving a series of entertainments at the army 'Y,' to which local talent of the city generously contributes its aid, and on each occasion the hall is packed with the soldiers, who appreciate this opportunity of mingling with the townspeople.

"Another function that the War Service Board has been able to assist in is encouragement of athletics among the engineers. They have a splendid football team, and on the occasion of their several games the people have not only encouraged them by their attendance, but have assisted in the advance publicity, and, in fact, they have had committees out to sell tickets in advance, so that in case of bad weather the soldiers would not suffer a financial loss in bringing outside elevens here. The boxing and wrestling tournaments that the soldiers have given have met with every encouragement from the civilians.

"The board has been anxious to live up to its watchword of 'service,' and hopes to do many things that will make the stay of the soldiers in Corpus Christi just as pleasant as possible under the circumstances."

A Vigilance Corps Organized in Arkansas to Arouse the People.

GEO. W. CHASE, Morning Star Mining Co., Rush, Ark.

We have organized a Vigilance Corps of the National Defense Society here at Rush with 17 charter members. We are canvassing the township thoroughly, and will list every person either loyal, disloyal, or doubtful or unknown, as prescribed by the national society, and persevere until we know how every person in this part of the county stands. The pamphlets by Dr. Hillis and your "America's Relation to the War" which we are ordering will be handed to those we have reason to believe have been misinformed or whose loyalty is in doubt.

Much good can be accomplished and material aid given to the Government by a thorough and general organization of this National Defense Society in every city and township. The fact that we must all do whatever we can in every way to help win this terrible war is beginning to soak into the minds of us here in the rural districts of Arkansas, and wheatless, meatless and other days of self-sacrifice are being observed. As our boys are fast leaving for the training camps and the battle fronts we begin to realize the fact that WE are at WAR with a foe that will tax our energy and resources to their utmost to win.

Boys who have been working in the mines and are leaving for the training camps, on being asked if they would request they be put into the engineer corps to dig trenches, replied: "No; we are going over to the battle front to take trenches from those d—d, despised Germans that are already dug, and not to dig them." This is the spirit of the Arkansas boys who are training for the fight, and this is the spirit that will win the war when the American boys are ready for the drive.

I observed the call as set forth on the front cover of the MANUFACTURERS RECORD of December 27, and heartily endorse it, as proven by our organization of a vigilance corps under that call.

I am also pleased to say the change in cover and work of the MANUFACTURERS RECORD in our present conditions meets with our hearty approval. It is certainly calculated to inspire one to read all within the impressive cover.

I admire your fearless attack on the incompetents at Washington and wherever they are found in places of trust and responsibility, and of your demand for their removal to make room for abler and better men. This is no time for favoritism or politics, and I am proud to see that the Republicans, of which I am one since casting my first vote for Abraham Lincoln in 1864, are solid behind the administration.

There should be but one object in view at this time, and that one to crush Germany, for that is our only hope of future peace. Put none but the most trusty and the ablest at the helm and at all important and vital places.

TURNING BASIN, HOUSTON SHIP CHANNEL.



APPROXIMATELY \$5,000,000 HAVE BEEN EXPENDED IN PROVIDING A 25-FOOT CHANNEL FROM THE GULF TO HOUSTON, TEXAS, A DISTANCE OF 50 MILES, AND A LARGE TURNING BASIN SHOWN IN THE ABOVE ILLUSTRATION HAS BEEN COMPLETED. FOUR CONCRETE WHARFS HAVE BEEN BUILT ON THE TURNING BASIN, TOGETHER WITH A NUMBER OF LARGE FIREPROOF WAREHOUSES, SOME OF WHICH ARE SHOWN IN THE ILLUSTRATION. A MUNICIPALLY-OWNED BELT-LINE RAILROAD WILL CONNECT ALL INDUSTRIES LOCATED ON BOTH SIDES OF THE CHANNEL AND ON THE TURNING BASIN.

Davison Chemical Report.

The annual report of the Davison Chemical Co. for the year ended December 31, 1917, shows gross profit \$1,062,392.04; increase as compared with 1916, \$471,293.95; other income, \$124,395.13; increase, \$49,747.20; total, \$1,186,787.17; increase, \$521,041.15; net profit after deducting administrative expense, \$906,384.11; increase, \$474,041.63; net income after interest paid and discount on two-year notes, \$876,161.64; increase, \$374,803.72. This was appropriated thus: Reserve for depreciation, \$150,000.00; Federal income and excess profit tax and contingencies, \$117,032.45; items applicable to prior period, \$35,759.33; transferred to surplus account, \$573,369.86. The balance sheet displays total assets of \$8,915,401.31, including land, buildings, machinery, equipment, etc., at \$6,351,516.01; liquid assets, \$1,928,208.48, and other items. The assets of the Davison Sulphur & Phosphate Co. total \$2,972,356.73. The consolidated balance sheet of these two companies and the Davison Chemical Corporation shows total assets of \$11,466,547.22.

President C. Wilbur Miller says in the report that the tonnage now being turned out by the Curtis Bay plant has more than met expectations and that the entire plant is in good condition, all the recent additions being of the most modern equipment and in keeping with the rest of the work. He also says that "A good deal of work is being done along the line of developing an outlet after the war for the acid entering into the manufacture of munitions with the idea of causing as little disturbance as possible in economic conditions, and we believe that this will be satisfactorily accomplished."

The development of the ore mines in Cuba owned by the company is progressing very satisfactorily. The amount of ore in sight, proven and partially proven, has increased to over 2,500,000 long tons.

Sugar Industry of Louisiana to Be Broadened and Expanded.

New Orleans, La., February 2—[Special.]—The sugar planters of Louisiana are preparing now for the greatest corn crop in the history of the Louisiana sugar industry, and many of the idle plantations are being put into cultivation to attain that result. The sugar planters also are not only increasing their cane acreages, but are practicing better and more intensive cultivation methods to add more to the prospective 1918 cane tonnage than the mere local increases in acreages would indicate.

The co-operative sugar factory plan has registered its

third consecutive Louisiana triumph in the instance of the phenomenal success of the little new sugar factory of the Centerville Sugar Co. at Centerville, La., in St. Mary parish, which was built on credit about four years ago, and which has already been paid for and has yearly netted big returns to the farmer stockholders. It is owned and operated by and for the small cane growers that furnish it with cane. On the 1917 earnings they paid their stockholders \$8.50 a ton, which is much above the highest other price paid for cane in Louisiana this past season. Besides, the factory itself made a profit of 25 cents a ton, which was also distributed among the stockholders.

J. L. Aron & Co., sugar and coffee factors of New Orleans and New York, who figured most prominently in the utilization of several Louisiana sugar-houses during the summer of 1917 for the refining of Cuban raws, are now negotiating for one or more Louisiana houses, which they propose to transform into full-fledged sugar refineries, operating all the year round.

Another interesting report in sugar circles is that reclaiming wax from sugar-making residuum is to be tried out in Louisiana.

Opposition is voiced in Louisiana to the temporary schedule of sugar prices just issued by the International Committee of Refiners, which allows a maximum differential between the price of washed sugars and raws of only 65 points, whereas the differential between refined and raws is 130 points. The sugar producers say that there is no quality reason for such a wide discrepancy.

Virgin Field of Phosphate in Kentucky.

A detailed report of the little-known phosphate field in the Blue Grass region of central Kentucky is now ready for distribution. The principal Kentucky phosphate field is near Midway, Woodford county, but phosphate rock is found also in Lexington, Fayette county, and in Scott, Franklin, Jessamine and Clark counties. The deposits near Midway and Lexington are the most valuable.

Samples of phosphate rock were obtained from more than 100 drill holes, sunk in the most promising places in the field, and were analyzed in the laboratory of the United States Geological Survey, Department of the Interior, and the analyses indicate that there is considerable high-grade phosphate rock in this part of Kentucky.

The Kentucky phosphate is in practically a virgin field. The local conditions in the Tennessee and Kentucky phosphate fields are similar, and the deposits in Kentucky must be worked in about the same way as those in Tennessee. For this reason the report gives a brief description of the methods followed in Tennessee

in mining phosphate rock and preparing it for market.

The report gives detailed descriptions and analyses of the phosphate rock, maps and sections, as well as general conclusions with reference to the outlook for the field.

The report, which is entitled "The Central Kentucky Phosphate Field," was prepared by W. C. Phalen jointly for the Kentucky Geological Survey and the United States Geological Survey, Department of the Interior. Copies of the report are available for free distribution and may be had by addressing the State Geologist of Kentucky, Frankfort, Ky., or the Director of the United States Geological Survey, Washington, D. C.

Louisiana's Prosperity Reflected in Banking Conditions.

New Orleans, La., February 1—[Special.]—The 1917 assets of State banks in Louisiana were \$70,000,000 in excess of those of 1916, according to State Bank Examiner Sims. Mr. Sims said further that the increase was general all over Louisiana and is the result of good crops combined with super-excellent crop prices. He said that all sections—cotton, sugar and rice, as well as lumber—had shown most healthy increases in bank deposits in 1917.

Figures on the 33 national banks in the State are not now obtainable, but the three national banks in New Orleans have combined assets, according to their reports, of approximately \$73,000,000.

Reports of the three banks at Opelousas, the center of a rich sugar and cotton section, typify financial conditions. A national bank there reported that its 1917 deposits were double those of 1916; another declared a dividend of 20 per cent. and announced an 80 per cent. increase in deposits, while the third paid a 20 per cent. dividend and showed deposits in excess of a quarter of a million dollars. The Bank of St. James, located in the heart of the old French sugar district, capitalized at only \$30,000, reported deposits of over a million dollars, while the Bank of Baton Rouge reported 1917 deposits of \$3,144,746.00, an increase over 1916 of over 50 per cent.

Work of the Chemical Alliance.

The Chemical Alliance, Inc., which was incorporated last summer, and which, as originally constituted, was in effect an incorporation of the committee on chemicals appointed by the advisory commission of the Council of National Defense, has established the following sections: Acids, Coal-tar By-Products, Foreign Pyrites, Electro-Chemicals, Fertilizer, Miscellaneous Chemicals, Alkali, Domestic Pyrites and Sulphur. New sections may be established from time to time. The annual meeting was called for this week in New York at the Hotel Biltmore, but its offices are at 538 Woodward Building, Washington, D. C. Horae Bowker is president; Henry Howard, vice-president, and J. D. Cameron Bradley, treasurer and secretary pro tem. The Chemical Alliance has for its object the work of the committee on chemicals, and also to solve, in co-operation with the Government, war problems affecting the chemical industry.

New North Carolina Mill Will Make Seamless Steel Tubes.

Raleigh, N. C., February 1—[Special.]—Mr. Charles A. Twist of New York City today obtained from the Secretary of State of North Carolina a charter for the Empire Steel Co., which will, for the present at least, have its headquarters at Raleigh. Mr. J. S. Long, the president of the Gulf Iron Works, Tampa, Fla., is the principal stockholder. Mr. Twist says the company's plant will be in the section of the State near Winston-Salem and that the company proposes to invest a million dollars in the business here. It will manufacture seamless steel tubes and general merchant bar steel. It will buy pig and scrap metal.

Mr. Twist says the abundance and the cheapness of hydro-electric power in North Carolina bring the company's enterprise here.

TYPE OF SCHOOL BUILDINGS NOW BEING ERECTED IN SOUTH AND SOUTHWEST.

Typical of the marked progress which has been made in recent years in the construction of model school buildings in the South and Southwest is the new high school which has recently been completed at Lake Charles, La., at a cost of \$100,000, illustrated herewith. The building is of classic design, constructed of impervious ivory-colored brick with terra-cotta columns, cornices, pediments and ornaments which match the brick in color. It is three stories in height, having a frontage of 280 feet, width of 80 feet, with administration wing 102 feet deep, with a prominent main entrance in the center pavilion and two additional front entrances. It is placed on a terrace in the center of a 16-acre tract of land, 256 feet from the street.

On the first floor is a large manual-training department for boys, equipped with electrically-driven wood-working machinery, tools and work benches; also bath-rooms with hot and cold showers, and gymnasium.

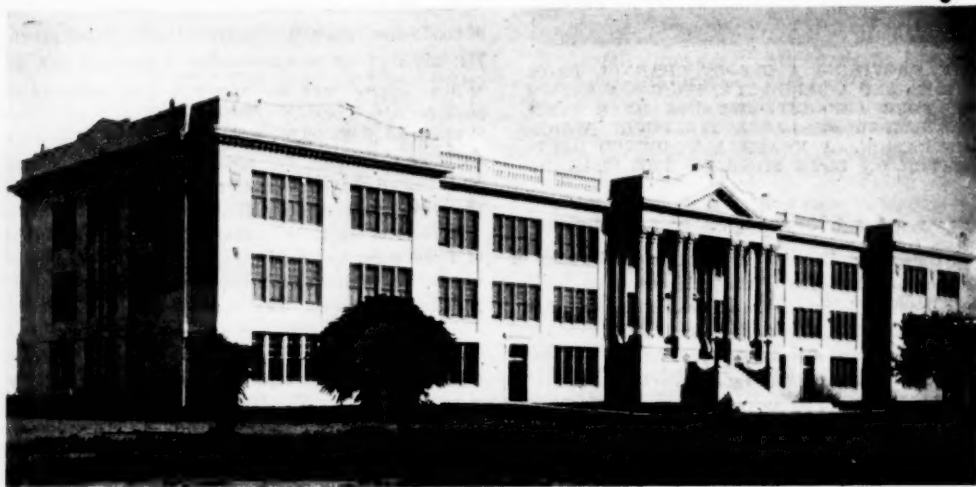
On the same floor are classrooms for the industrial

training of girls; also model dining-room and cafeteria, laundry, sewing-room and cooking-room, with gas heaters, gas ranges, etc., and hot and cold shower baths and gymnasium for girls.

On the second floor are a study hall, infirmary, teachers' room, principal's office and ten classrooms, with a central corridor extending the entire length of the building. The auditorium, located on the second floor, is two stories in height, and has seating capacity for 700.

On the third floor is a large chemical laboratory, physics laboratory, demonstration-room with elevated seats, and biology laboratories; also three rooms for instruction in bookkeeping, stenography and typewriting, and large room equipped for instruction in mechanical drawing.

Plans and specifications were drawn by Nolan and Torre, New Orleans, and the structure erected by C. O. Eure, Hattiesburg, Miss., who was the general contractor.



NEW \$100,000 HIGH-SCHOOL BUILDING AT LAKE CHARLES, LA.

Potash Exploration on Government Lands.

Secretary of the Interior Lane issued last week the first permit under a new law for potash exploration on Government lands. This permit covers 2500 acres of alkaline marsh land in the desert region of Inyo county, California, and the permittee expects to promptly begin explorations by sinking wells. Other similar permits will be issued in the near future.

Potash deposits on public lands have not been heretofore developed because all such lands known to contain potash deposits have been withdrawn from acquisition.

Under a recent law permits may be issued for the exploration for potash on tracts of land not to exceed 2500 acres. These permits run for two years, and if potash of commercial quality and quantity is discovered, the permittee will be given a patent for one-fourth of the land covered by his permit, and the remainder may be leased by the Government to others.

Enviably Health Record at Texas Army Camp.

Corpus Christi, Tex., February 2—[Special.]—Health conditions at Camp Scurry are said by military authorities to be ideal. Unrelenting activity of the military police, assisted by the city and Federal authorities, has placed bootlegging at a minimum, and the proclamation of the President forbidding the operation of bawdy houses within five miles of an army camp has been rigidly enforced.

The Fifth United States Engineers have been located at the local camp since last June, and the reports show that the record of venereal diseases among the engineers during that time has been but seven-eighths of 1 per cent.

For the months of November, December and the first half month of January there were but 10 cases of intoxication among the Camp Scurry soldiers.

There has never been a case of contagious disease since the engineers have been here.

Since last June the sick rate at the camp, this includ-

ing all men on sick report, has been but 4.8 per month. This sick record, it is said, is the best of any army camp in the United States.

Since Camp Scurry was established, in September, 1916, it has been occupied first by 3200 men of the Texas National Guard, who remained here for seven months, later by two companies of the regular army, who were here for a brief period, then by seven companies of the Third Texas Infantry, and for the past seven months by the Fifth Engineers.

During the approximately 17 months that the soldiers have been here there has been but one death, that of an enlisted man, who was drowned in Corpus Christi Bay when a boat that he was handling capsized.

To Protect Sheep from Cur Dogs Object of Concerted Movement in Kentucky.

Louisville, Ky., February 2—[Special.]—Some well-considered and vigorous action is imminent in Kentucky to encourage sheep breeding by drastic curtailment of cur dog keeping privileges. A measure, drafted by Matt Cohen, commissioner of agriculture, is now before the Kentucky Legislature, supported strongly by a large number of interests in the State. A mass-meeting of farmers, retail merchants, agricultural agents and experts and others interested, is being held today in Lexington, with the avowed purpose of organizing support of two movements. One of these seeks enactment of the law by the Kentucky Legislature and the other enactment of a Federal law which many believe—the authorities being responsible to no local public and political influence—would be more effective than a State law which locally elected officials might not enforce rigidly.

The proposed law in the Kentucky Legislature would assess county taxes and licenses of \$2 for males and \$4 for females, providing penalties for failure to take out licenses annually. It is further provided that owners of dogs must take them up at night, under penalty, so that they cannot roam the countryside, while it is fur-

ther provided that any landowner or tenant is at full liberty to shoot vagrant dogs which come upon his land, being exempted from liability to the owner of the dog. With wool prices as they are and the farmer awaking as he is to the state of affairs, there is felt to be a very good likelihood of some drastic measure such as this being enacted.

One of the organizations which is squarely and vigorously behind the measure is the Kentucky Retail Clothiers' Association, which in convention at Louisville last week adopted resolutions urging State and national legislation to protect sheep owners from dogs.

Big Government Automobile Plant.

Some details have been announced regarding the big automobile plant which the Government will build near St. Helena, Md., at an estimated cost of \$2,500,000. Plans and specifications provide that 50 of the 75 plant buildings will be of concrete and steel construction, to be equipped for automobile assembling and as a salvage station for motor cars from army cantonments in 16 States. The plant machinery will include a complete equipment for handling motor trucks and other army power vehicles used by the War Department in its activities for the war with Germany.

A site of 100 acres on Colgate Creek, between St. Helena and Sparrows Point, near Baltimore, has been secured, where general improvements have been undertaken, together with the construction of the buildings. Edward O. Scheidenheim & Company of Chicago have been awarded the general construction contract.

As an accompaniment of the big plant, there will be established a cantonment, similar to those provided for the army, to accommodate 100 officers and 2000 men. The men will be required for 20 departments, most of these employees to be skilled mechanics, who will have unusual advantages for acquiring a thorough acquaintance with the mechanical details of motor vehicles, and for advancing in the Government service. This knowledge will also be of great value to them in the country's industrial life after the war activities have ceased because of the rapidly growing adoption of motor cars for every avenue of industrial activity, including their use for freight shipments which the steam railways are now handling.

Criticisms Which Will Save Many Lives in Future.

[Greenville (S. C.) News.]

For our part, we are of the opinion that the chairman of the Senate Committee on Military Affairs violated no canon of patriotism in making disclosures of this sort. The people of the country are entitled to the whole truth as to how and why these men and hundreds of others died. That information can be of no service to the enemy, but it will help those now and hereafter in authority to take care that these conditions shall not happen again. Where the blame lies is not yet revealed, but publicity can do no harm here. No explanation, however full and explicit, can recall these men from the bivouac of the dead. No inquiry, however penetrating, can lessen the sorrow that dwells in the hearts of those who loved them. Mortality statistics cannot expunge from the record such letters as those above outlined. The Congress should probe this phase of the military system thoroughly, and if it shall find that, for any cause, these deaths might have been prevented, that anywhere there has been failure of due care, it should apply the most drastic remedy within its power.

Alcohol Plant to Cost \$3,000,000.

Engineers have completed plans and specifications for the construction and equipment of the plant which the West Virginia Pulp & Paper Co. will build at Luke, Md., to manufacture alcohol for the Government. It is now reported that a total of \$3,000,000 will be expended for this enterprise, and reinforced concrete has been adopted for the principal construction required. The alcohol will be produced from pulp-mill waste, including the waste pulp and the waste acids. Contract for building this big plant has been awarded to the George A. Fuller Company of New York.

The Iron, Steel and Metal Trades

Strict Embargoes Reduce Steel Production to Less Than Fifty Per Cent.

New York, February 4—[Special.]—The keynote of the steel industry's producing capacity at present is the ability or inability of the railroads to provide adequate transportation facilities. The Fuel Administrator's plant-closing order is now regarded as of minor importance. The entire Western central steel-producing district was greatly hampered last week by the inability of the railroads to take shipments. This has resulted in the tonnage movement of finished steel being less than 50 per cent. of capacity. The average of January shipments was little if any above this figure. Until very recently the chief restriction was through inadequate supply of coke, but now the restriction at the other end is greater.

The railroads are interpreting their embargoes very broadly, and it is almost impossible to secure permits. The proportion of steel on order books destined for points not embargoed is very small. Conditions as to tin-plate manufacture and shipment are no worse than in other branches of the finished steel trade.

The fuel situation was slightly improved last week from the viewpoint of the steel trade. Coal loadings were better, and the lower pools of the Monongahela River were opened, giving the Pittsburgh steel plants some additional coal.

While pig-iron production is at only between 60 and 70 per cent. of capacity in the iron and steel industry as a whole, it is impossible to ship all the finished steel that could be made with the supply of pig iron. As the days go by one department of the steel mills after another finds itself choked with finished product and must close. In all quarters the chief hope hangs on the weather, there being confidence that mild climatic conditions will bring relief in transportation, and the weeks are being counted until spring weather shall be here.

There was practically no steel market last week. No one was disposed to buy or sell when material, already bought or sold, is not being delivered. The entire trade is concerned with transportation conditions, which prevent the carrying out of engagements already made. Buyers of steel, of course, are well supplied in the matter of having orders due to be filled. Even if anyone did desire to purchase at this time, especially for early delivery, there would be no prospect of the order being executed.

If it were not for Government orders the steel mills would be shipping scarcely any products. Despite the strict embargoes Government material gets through to a considerable extent. Any mill that is shipping steel today at the rate of 50 per cent. is doing so almost exclusively on Government contracts.

Steel companies accepted very few orders last week for rolled-steel products other than those absolutely necessary to further the war program of the nation. Some of the largest interests refused many orders in the past few days. It is an interesting fact, however, that an unusually large number of inquiries were received for export. These came chiefly from the Orient, including a large tonnage of ship steel for Japan and moderate tonnages for China. One large interest working in direct relation with the Italian Government requires 10,000 tons of corrugated steel sheets to finish a war-munition plant, but was unable to place the contract. There were also inquiries for other rolled-steel products for Italy on the market in lots of 5000 tons, which are still pending. Large orders for machine tools placed by Italian interests in this country over a year ago have not been filled, and plants engaged in the manufacture of war munitions are idle because the machinery cannot be obtained. Some of these tools, it is now reported, were commandeered by the United States Government. One gun plant in Italy has been equipped with American machinery and machine tools costing \$6,000,000.

Wire manufacturers took contracts for 35,000 kegs of wire nails for the Government last week. These included about 20,000 kegs for the Navy Department for export to France. About half of this order will be filled by the American Steel & Wire Co. The Quartermaster's Department of the army also placed orders aggregating about 15,000 kegs of nails for various ship-

ments in this country. About 20,000 kegs are wanted for the powder plant at Charleston, W. Va. The Government also called for 5000 kegs of nails for shipment to the nitrate plant at Sheffield, Ala.

Domestic consumers of steel wire were active in the market, and considerable business was taken for shipment in the next 60 days by the largest interest. Very few shipments were made, however, due to the inability of the railroads to carry material and the difficulty of assembling raw material to keep the plants in operation. At Cleveland the largest wire interests operated only two blast furnaces. Mills are being run intermittently.

Some banked furnaces resumed operations last week, although on the whole the rate of pig-iron production was not increased. Prospects of coke receipts were not improved.

Consumers of pig-iron were in the market last week for foundry and steel-making iron in large tonnages, both individually and in the aggregate. Shipment was for during the balance of the first half as well as the second half of this year. Very few furnaces, however, accepted contracts for future shipment. At the same time some furnaces in the Central West took additional tonnages of foundry iron for shipment to the East over the second half of this year. The Westinghouse Electric & Manufacturing Co. secured 5000 tons of Bessemer iron for shipment to its Cleveland plant, where it is manufacturing war munitions. It is estimated that 150,000 tons of basic iron alone are wanted for this year's shipment by domestic consumers, and a large tonnage is also required by Canadian buyers.

Eastern Pennsylvania furnaces accepted a few additional orders for low-grade iron for prompt shipment last week. Other furnaces in New York State and Western Pennsylvania did the same thing. Because of the inferior quality of much of the coke that is being delivered to the blast furnaces, an unusually large amount of "off-iron" is being produced. This is readily disposed of for prompt shipment, but it is as difficult as ever to make shipments because of freight congestion and railroad embargoes. Production is also badly handicapped by an inadequate supply of fuel.

No Improvement in Metal Markets.

New York, February 4—[Special.]—The metal markets were very quiet last week and there are no new features to report. Railroad difficulties, embargoes, etc., have not brought about any rumors of copper scarcity, and as the price is fixed for some time to come it appears to be realized in the trade that arguments for higher prices are futile. Were it not for the fact that these troubles affect consumers as well as producers, the situation would be threatening if not relieved in the near future. As it is, the falling off in production is counterbalanced by that in consumers' ability to get raw material and make shipments.

The lead market was quiet and unchanged. For prompt Western shipment there were inquiries in the market at 6.80 cents, St. Louis basis, with sellers asking 6.90 cents. Some business was transacted at 6.85 cents. Later deliveries were quoted at from 6.70 cents to 6.85 cents, St. Louis, with no free offerings for anything earlier than March shipment. Deliveries on Government orders were made promptly to the full extent of the shipping instructions which were issued. Spot lead in New York was offered at 7.12 cents, light-erage free, and a few carloads were sold at 7.00 cents. The American Smelting & Refining Co. continued to quote 6.75 cents on its offerings.

The spelter industry is becoming more and more tied up through the railroad embargoes and freight congestion. There is hardly a manufacturing plant in the country, aside from those employed on Government business, that is not having its operations interfered with owing to the difficulty of getting goods and supplies either in or out. With what are usually the two worst months of winter still before us, the fear that there is no relief in sight is still being entertained.

Business in spelter is in a restricted condition. There are not many orders being placed that are not in some way connected with the war. Speculative operations have gradually come to a standstill, as evidenced

by the absence of price fluctuations, which are also an evidence of the hand-to-mouth buying by consumers. A consumer's order for future delivery spelter is a curiosity these days. Producers offered prompt shipment prime Western spelter last week at 7.82½ cents to 7.87½ cents, and for March shipment at 7.87½ cents to 7.92½ cents. There was practically no buying at these figures.

It is coming to be considered in the trade that there is something behind the action of the Government in seizing stocks of pig-tin at New York, as reported in these columns recently, other than simply to get a supply of the metal for its requirements. The Government's mandate is being strictly enforced, and a close watch is being kept upon all dealers, sellers and buyers of tin by the American Iron and Steel Institute's officials, evidently by Government direction. It is well known that many in the trade have already been warned that anyone holding tin at present which has not been turned over to Government officials, or any attempt to evade the issue, will be promptly arrested and punished.

On Friday of last week the Emergency Fleet Corporation, acting for the Government, seized the cargo of 375 tons of Banca tin which had just arrived at New York. The demand for the metal, however, despite the action of the Government, was very active last week. Of course, there were no offerings, under the circumstances.

Pig-Iron Production South Reported as About Normal.

Birmingham, Ala., February 4—[Special.]—Pig-iron production in Alabama and other parts of the South is again normal. Disturbances in the way of extreme weather, affecting the coal, coke and ore supplies through interference with mine and oven operations and transportation in the intra-district business, was felt for the past three weeks in furnace circles. All conditions lately have recovered, and the announcement now is that output at furnaces is about normal. Statistics as to the production in January show a make under what was expected before the month started. The prediction is made that though February is three days shorter than January, there will be a more satisfactory production this month than last.

Sales of pig-iron are still noted, though contracts seen are for small lots. Reports persist that some round tonnages were recently sold, delivery during the second, third and fourth quarters of the year. Inquiries are still numerous. The clause inserted on contracts to the effect that all iron to be delivered after April 1, 1918, is subject to revision by the Government, and also that the seller has the right to cancel the contract, has not, as far as can be learned, frightened off any consumers. The effort is apparent to get in early on orders for future delivery, and the chance will be taken as to regulation or change in price.

The railroad situation in the South shows little change. Nine cars of iron, bound for Eastern Pennsylvania, have been in the yards here for several weeks, not being moved because of the embargoes. A representative of the purchaser of this iron has been in this district for several months, vainly attempting to get the iron started. One of the railroads to the West and Middle West out of this district has announced embargo on all commodities except coal and food products, and this had a tendency to bring about further dismay. There is considerable iron yet to be delivered from this territory on old contracts, while new business in hand calls for practically the probable make as quickly as it can be loaded.

Home consumption also shows a little improvement this week, though it cannot be stated that the melt at the cast-iron pipe plants is as healthy as it was two months ago. The pipe trade is still a little quiet, though an improvement in the general condition is looked for in the near future. Foundries and machine shops are still busy, and a prominent interest announces that this condition should continue for months to come. The foundries and machine shops in the immediate district of Birmingham suffered very little in the general coal conservation plans, by reason of being exempted, working on Government contracts, and also by reason of the use of hydro-electric power.

Coal and coke supplies should be more plentiful from now on. In addition to better weather conditions, the

agreement between operators and union miners and mine workers as framed by the Federal Fuel Administrator in December went into effect February 1, and a penalty clause is being prepared, so that steady operation of mines is assured. The miners have begun selecting their checkweighmen, and also naming their mine committees through whom grievances will be submitted.

John J. Shannon has taken hold of the work as general manager of the Woodward Iron Co. He has been in this district 42 years. He was born in England, and came South from Lehigh, Pa. For 14 years he was with the old Tennessee Coal, Iron & Railroad Co., in the furnace department, then with the Alabama Steel & Wire Co., then Sloss-Sheffield Steel & Iron Co., and for the past few years general superintendent of furnaces of the Woodward Company.

Pig-iron and scrap iron and steel quotations in the South are as follows:

PIG-IRON.
No. 2 foundry.....\$33.00 f. o. b. furnaces.
(Differentials according to silicon as before Government revision; charcoal iron, \$43.00; all contracts for delivery after April 1, 1918, subject to revision by some Government agencies, probable, and also subject to cancellation by furnace company.)

OLD MATERIAL.

Old steel axles.....	\$32.00 to \$33.00
Old steel rails.....	28.00 to 30.00
Heavy melting steel.....	23.00 to 24.00
No. 1 R. R. wrought.....	29.00 to 33.00
No. 1 cast.....	26.00 to 27.50
Stove plate.....	19.00 to 21.00
Old car wheels.....	25.00 to 30.00
Tramcar wheels.....	21.00 to 25.00
Machine shop turnings.....	17.50 to 19.00
Cast-iron borings.....	13.00 to 15.00

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

BALTIMORE & OHIO'S GREATEST YEAR.

But Heavy Increase of Expenses Much More Than Wiped Out the Gain.

The Baltimore & Ohio Railroad Co. has issued its statement for the year 1917, the figures for December being partly estimated. It shows: Operating revenue \$133,613,321, increase as compared with 1916, \$11,819,478; total operating expenses \$103,024,213, increase \$15,244,059; net operating revenue \$30,589,108, decrease \$3,424,581.

The great increase of expenses was principally for conducting transportation, the increase in that item alone being \$14,220,035, due chiefly to the application of the eight-hour law. Expenditures for maintenance of equipment show an increase of \$1,608,826 in a total of \$25,874,279, but expenditures for maintenance of way and structures dropped \$1,298,227, to \$14,182,963.

Operating revenues for the month of December were \$8,668,050, increase \$356,743; total operating expenses \$8,816,119, increase \$1,521,462; net operating revenue \$1,851,931, decrease \$1,164,719.

WARRIOR RIVER INTERURBAN.

Charter Being Prepared to Build Road from Birmingham Through Coal Field.

Plans for the construction of an electric or other interurban railway from Birmingham, Ala., to the Warrior River, about 21 miles, are progressing steadily, according to a report from that city, which says that G. R. Harsh, general counsel, has been authorized to prepare incorporation papers for the Alabama Interurban Railway Co., which is to have \$5,000,000 capital stock, of which one-half will be 8 per cent. preferred and the rest common. Two routes are under consideration, one of which would necessitate the construction of only 16 miles of line, about five miles of existing railroad being utilized. The other plan is to build an wholly independent line throughout. It is stated that 80 per cent. of the right of way has already been obtained.

A most important feature of this plan is said to be the fact that it will traverse for its entire length a coal field where there are many opportunities for drift mining on veins from three to six feet thick or mining may

be conducted at almost any point if shafts are sunk. Terminals on the river have been secured. There are more than 100 openings reported for drift mining.

The list of directors of the company includes Thomas L. Cannon, Roy McCullough, Job Going, B. M. Allen, H. M. Gassman, G. R. Harsh, Arnold Massberg, Robert N. Bell, O. P. Board, J. W. Gwin, T. A. L. Weller, W. J. Long, John T. Hagerty, James T. Hill, J. B. Fellheimer and D. W. Foley.

For Municipal Railways and Power Plants.

A bill has been introduced in the Legislature of Mississippi to authorize municipalities to co-operate and combine for the purpose of building, owning, leasing and operating interurban electric railways, the idea being to encourage the development of hydro-electric plants on various streams not only for running such roads, but for furnishing power and lighting facilities to towns and other communities. The measure was introduced by Senator C. R. Greaves of Madison county, and was favorably reported by the committee to which it was referred.

It is stated that this bill, if its becomes a law, will be of particular importance to Jackson, Vicksburg, Meridian, Natchez, Laurel, Hattiesburg, Gulfport, Pascagoula, Biloxi and other towns and cities. It would permit the building of a dam in Pearl River near Jackson, or another dam in Leaf River near Hattiesburg, etc.

Furthermore, it is suggested that the idea of combining interurban railways might lead to the linking up of an electric railroad system reaching from New Orleans to Mobile, for the bill also provides combinations may be made with municipalities outside of Mississippi.

Mention was made in the MANUFACTURERS RECORD of December 20 that such a bill had been prepared for introduction.

In Active Co-operation With the Government.

The Hyman-Michaels Company, People's Gas Building, Chicago, dealer in new and relaying rails and iron and steel scrap, has written a letter to its customers apropos of the recent order of the Director-General of Railroads increasing demurrage charges. The company urges them to so load cars that they will not be held on account of shortages and to so ship cars that there may be no delay in their movement because of negligence on the part of shippers. Careful instructions are given so that everything will be done to prevent delay. The company says that the letter has already had a most gratifying effect; also, that it "is exerting every effort to avoid unnecessary reconsignments entirely, in that this is the most effective means of keeping the steel mills supplied."

New Equipment, Etc.

Chesapeake & Ohio Railway has ordered 15 Mallet and 10 ten-wheel switching locomotives from the American Locomotive Co. All will have superheaters.

Pine Dell Plantation, Williamsburg, Va., J. P. Christensen, engineer in charge, wants to buy a kerosene locomotive; also, second-hand 35-pound rails for standard-gauge railroad 5 miles long.

Kansas City (Mo.) Structural Steel Co. is reported building 100 tank cars of 10,000 gallons capacity.

Illinois Central Railroad has ordered 4 Santa Fe type locomotives with superheaters from the American Locomotive Co. Each weighs 367,000 pounds.

Missouri, Kansas & Texas Railway has ordered 20 freight locomotives from the American Locomotive Co.

Official Changes

H. S. Newton, who has been for several years general manager of the Ohio Valley Electric Railway with headquarters at Huntington, W. Va., will on February 15 become manager of railways for the Monongahela Valley Traction Co. with headquarters at Fairmont, W. Va. Herman V. Hesse, who has been manager of the Maryland division of the Consolidation Coal Co., will become manager of coal operations for the traction company. A report from Huntington says

that W. P. Power will succeed Mr. Newton as general manager of the Ohio Valley Railway Co. He has been with this interest for several years as general manager of its heat, light and power plants, which will also continue under his charge.

Markham Has Office in Atlanta.

C. H. Markham, president of the Illinois Central Railroad, who was recently appointed regional director of railroads for the Southern District under the new Government control system, established an office in the Healey Building, Atlanta. It is stated that his authority extends over all the railroads south of the Potomac and the Ohio rivers and east of the Mississippi River, excepting the Chesapeake & Ohio Railway, the Norfolk & Western Railway and the Virginian Railway. It will also include Southern roads whose lines extend into Illinois and Indiana. L. W. Baldwin of Savannah, vice-president of the Central of Georgia Railway, and Chas. R. Capps of Norfolk, vice-president of the Seaboard Air Line, have been appointed to serve as assistants to Mr. Markham.

Railroad Statements.

The Atlantic Coast Line Railroad Co. statement for the year 1917 shows total operating revenues, \$44,063,331; increase as compared with 1916, \$6,741,245; operating expenses and taxes, \$32,037,994; increase, \$6,133,979; operating income, \$12,025,336; increase, \$607,266.

The Nashville, Chattanooga & St. Louis Railway statement for the year 1917 shows operating revenues, \$15,194,755; increase as compared with 1916, \$1,675,166; operating expenses, \$11,550,031; increase, \$1,800,221; net operating revenues, \$3,644,723; decrease, \$125,054; operating income after taxes and uncollectible railway revenue, \$2,979,697; decrease, \$441,903.

May Ask Foreclosure.

A report from Pensacola, Fla., says that the United States District Court has authorized the Columbia Trust Co. of New York, which is trustee for the \$4,410,000 of 5 per cent. first mortgage bonds of the Gulf, Florida & Alabama Railway, to file a bill of complaint and foreclosure against the property, which is now in a receivership. The road is 143 miles long northward from Pensacola to Kimbrough, Ala., where it connects with the Southern Railway. Connection at Pensacola is with the Louisville & Nashville Railroad. John T. Steele is receiver.

Excellent Report of a Texas Road.

The annual report of the International & Great Northern Railroad for the calendar year 1917 shows operating revenue of \$12,588,224; increase as compared with 1916, \$1,821,279; operating expenses, \$8,649,994; increase, \$863,944; net revenue, \$3,938,230; increase, \$957,334; operating income after taxes, \$3,577,967; increase, \$1,017,927; gross income, \$4,636,182; increase, \$1,430,115; net income after hire of equipment, etc., \$3,254,471; increase, \$1,187,540; surplus after interest deductions, \$1,697,139; increase, \$1,133,009.

\$3,000,000 Traction Notes Approved.

The board of directors of the Monongahela Valley Traction Co. has approved the issue of \$3,000,000 of one-year notes recently reported. They are dated February 1. The proceeds are to be expended for improvements, which include the large power plant already reported under construction at Rivesville, W. Va.

Must Go Over, Not Under.

GEO. R. MARTIN, Contractor, Salisbury, N. C.

I am herewith enclosing check for \$5 on my subscription. I do not want to miss a single one of your articles on the war. I am with you heart and soul. No patched-up peace for me. We must go over, not under.

Good Roads and Streets

Bonds Voted.

Fort Pierce, Fla.—City voted \$10,000 warrants for street improvements.

Gonzales, Tex.—Gonzales county voted \$75,000 bonds to construct roads.

Roby, Tex.—Fisher county voted \$100,000 bonds for constructing roads.

Seguin, Tex.—Guadalupe county voted \$36,000 bonds for road construction.

Bonds to Be Voted.

Brady, Tex.—McCulloch county votes February 23 on \$25,000 bonds for improving highway.

Chestertown, Md.—City will vote on \$6000 bonds for street improvements.

Colorado, Tex.—Mitchell county votes February 23 on issuing \$100,000 bonds for constructing roads.

Jourdanton, Tex.—Atascosa county votes February 16 on \$250,000 bonds for building highway and building tributary roads.

Wauchula, Fla.—City will vote on \$42,000 bonds for road and other improvements.

Contracts Awarded.

Jefferson City, Mo.—Cole county awarded \$17,563 contract for road improvements.

Jonesboro, Ark.—Craighead county awarded \$125,589 contract for constructing 11½ mile highway of asphaltic concrete.

Contracts to Be Awarded.

Decatur, Ala.—Morgan county opens bids March 4 for constructing 9-mile highway.

Marshall, Ark.—Searcy county will construct 11 miles of highway in connection with recent issue of \$20,000 bonds.

Martinsburg, W. Va.—City opens bids March 1 for constructing 17,499 square yards of brick paving, 7972 square yards of asphalt-macadam and 9520 lineal feet of concrete curbing.

Portsmouth, Va.—Norfolk County Farm Co. will build 4-mile highway.

Selma, Ala.—City invites bids until February 14 for constructing 12,000 square yards of concrete sidewalks and 2000 feet of concrete curb.

Starke, Fla.—Bradford county will build 100 miles of highway.

Innovations in the Interest of Promptness and Efficiency in North Carolina.

Raleigh, N. C., February 2—[Special.]—The North Carolina State Highway Commission is taking the initiative in some practical ways in public road work. The State Highway Engineer has prepared thousands of what may be termed complaint cards, to be used in calling the attention of the State Highway Maintenance Department to roads that need repairing. These cards are being distributed in the 46 counties (almost half of the State) in which the State Highway Commission has taken hold. No road of a public nature can now be constructed without the approval of the commission, and for the first time the State has a real road law and real supervision and real State aid, with plans and money. The card brings results at once and the supervisor is bound to act without delay, for the cards are kept on file. It is the plan to bring all the counties into the supervision arrangement by the end of 1918, or soon thereafter.

Another innovation is a plan to see that road supervisors always have money to pay off road hands each Saturday night. The commission has placed \$1000 in the hands of each of the supervisors requiring each to give \$1000 bond in a bonding company. The arrangement was made with Governor Pickett and State Treasurer Lacy by the commission, and it has full official approval as being practical and effective.

To Mine Maryland Coal.

Coal land in Garrett county, Maryland, near Oakland, will be developed by the Dodson Bituminous Coal Corporation, subsidiary of Weston, Dodson & Co., Bethlehem, Pa. This company has purchased 3500 acres of the land and plans to provide for a daily capacity of 3500 tons of coal with town for 1000 miners.

TEXTILES

Cotton Duck Mill for Oklahoma.

Industrial Commissioner R. W. Hockaday of the Missouri, Kansas & Texas Railway, St. Louis, sends the MANUFACTURERS RECORD details of the recently announced plan of the Pioneer Cotton Mills, Guthrie, Okla., for installing machinery to weave cotton cloth. This plant was established in 1906, and has been manufacturing 32 different kinds of wrapping twine, from 2 to 60 ply. It markets annually \$600,000 worth of manufactured cotton products from its 6000 spindles, and consumes 5000 bales of cotton, a large part of this being produced in Logan county, of which Guthrie is the county-seat.

Recently the company decided to enlarge the mill and install new weaving equipment. As the plant is equipped with power and much of the machinery required, it was found that \$100,000 is required for the purchase of the necessary additional machinery. J. E. Douglas, president and general manager, is now in the East purchasing this machinery. The mill building is 360 feet long by 100 feet wide, and for the additional machinery a 122x100-foot wing will be built. This new machinery will be weaving by July, and the product will be heavy cotton ducking from 8 to 12 ounces to the yard, in widths from 28 to 32 inches.

The output of twine will be reduced one-half in order to keep the weaving mill supplied with cotton—80 bales per week. As there is 10 per cent. waste, the plant's output is 36,000 pounds of twine per week. There are 100 employees, and the annual pay roll amounts to more than \$50,000, besides which the company paid to Logan county farmers for cotton last year, so that the total expenditure of the company was nearly \$1,000,000 for 1917.

Commissioner Hockaday writes:

"The success of this enterprise shows that it pays to build up home industries. Texas has 16 successful cotton mills. According to a recent report from the U. S. Department of Agriculture, Oklahoma for 1917 ranks fourth in cotton production, while in 1915 it was eighth. The number of bales reported in January was 851,000, as compared with 741,358 bales in 1916 and 445,316 bales in 1915. This year the State hopes to reach 1,000,000 bales. In spite of this big yield, most of the cotton is shipped to other States to be converted into manufactured articles, which are shipped to Oklahoma.

Oklahoma needs more manufacturing industries to utilize its raw product at home. In Eastern Oklahoma there are 80,000,000,000 tons of coal and an unlimited supply of natural gas and oil that will provide an abundance of cheap fuel for all kinds of factories for many years to come. The State has the labor, cheap fuel, the raw material, good railroad facilities, and everything necessary to insure the success of cotton mills, and there is no reason why there should not be a dozen centers of cotton weaving in the State."

Anderson Hosiery Mills.

Final details have been determined for the Anderson (S. C.) Hosiery Mills, announced last week. The MANUFACTURERS RECORD is advised that the initial daily capacity will be 240 dozen pairs of half-hose, and that the building to be erected will have floor space for the installation of machinery to increase this daily output to 1000 dozen. Plans and specifications are being furnished by C. Gadsden Sayre, architect, who is also vice-president and secretary of the company, for a two-story 84x50-foot mill-construction building costing \$10,000. Twenty knitting machines, electric motors, etc., costing \$15,000 have been ordered, and bleaching, dyeing and finishing equipment will be purchased.

Textile Notes.

The Ninety-Six (S. C.) Cotton Mill has increased its capital from \$200,000 to \$400,000.

Twenty new knitting machines will be added by the National Knitting Mills of New Orleans and this equipment has been ordered.

The Mollohon Manufacturing Co., Newberry, S. C., will install 1050 spindles and 368 automatic looms to re-

place old type looms and this new weaving machinery has been ordered. Upon completing this addition the Mollohon plant will have 40,050 spindles and 620 automatic looms. Wide print cloth and sheeting are the products.

An installation of 5000 additional spindles has been decided upon by the Parkdale Mills, Gastonia, N. C., and this new equipment has been ordered.

J. H. Separk, Gastonia, N. C., has organized the Myrtle Mills to establish a plant equipped with 10,000 to 15,000 spindles for manufacturing hosiery yarn.

An installation of 5000 additional spindles has been decided upon by the Gray Manufacturing Co., Gastonia, N. C., and this new equipment has been ordered.

Lancashire is a word that at once suggests cotton manufacturing and the great Lancashire cotton-mill district of England. "Sir Charles W. Macara, Bart., a Study of Modern Lancashire," is the title of a book which presents interesting and timely information regarding the cotton factories of Lancashire, especially those controlled by the house of Bannerman. This is an interesting subject, and an indication as to the character of this biography of Baronet Macara is readily obtained by glancing at a few of the titles of the chapters, as follows: Victorian Manchester; The House of Bannerman; The Operatives; Masters and Men; Internationalism; International Cotton Federation; War; Cotton Reserve; Cotton as Contraband. Sherratt & Hughes of Manchester, England, are the publishers.

MINING

Coal, Iron, Manganese and Limestone.

Georgia coal, iron, manganese and limestone in Bartow, Cherokee and Dade counties will be developed by the Georgia Iron & Coal Co. of Atlanta. The properties are reported to include 45,000 acres of land, with large quantities of coal, brown iron ores, red fossiliferous iron ores, manganese ores and limestone, which are to be mined with modern mechanical installation now contemplated. This acreage is principally in three bodies, one being 12,000 acres of brown iron and manganese ores in Bartow and Cherokee counties. Another is a 15,000 to 20,000-acre tract of coal in Dade county. In Lookout Mountain and Lookout Valley are other tracts containing red iron ore and limestone. It is understood that the iron furnace at Rising Fawn, in the Lookout Valley, Ga., will be blown in to consume a portion of the iron which the company will mine. Joel Hurt of Atlanta is president of the company and he wires the MANUFACTURERS RECORD that plans for operating the properties have not been decided, but are expected to be under consideration in about 30 days.

Cummock Coal Mining Co.

Plans are being formulated for the development of coal deposits at Cummock, N. C., on the Norfolk Southern Railroad. They are being considered by the Cummock Coal Mining Co., which has been incorporated with a capitalization of \$1,000,000 and the following officers: J. H. Young, president, Norfolk, Va.; R. H. Swarthout, vice-president, New York; M. Manly, treasurer; M. S. Hawkins, secretary; both of Norfolk.

This new corporation is supplemental to the Piedmont-Cummock Company, recently chartered with \$500,000 capital, which was later increased to \$1,000,000, by the incorporators of the Cummock Coal Mining Co. It is understood that the output of the Cummock coal mines will be used for fuel on the Norfolk Southern Railroad.

Kentucky Fluorspar Development.

Fluorspar deposits in Kentucky and Illinois will be developed by T. N. Hazelp and E. C. Phelps of Paducah, Ky. This firm has under lease more than 400 acres of fluorspar land in Crittenden county, Kentucky, where surface mining is now in progress, their plans contemplating the organization of a corporation to sink a deep shaft and install mining machinery. The Illinois property is a 385-acre tract in Hardin county which Phelps and Hazelp have optioned.

Construction Department

IN ORDER TO FOLLOW UP

Properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY

The MANUFACTURERS RECORD seeks to verify the items reported in its Construction Department by full investigation. It is often impossible to do this before the item must be printed or else lose its value as news, and in some items it is found advisable to make statements as "reported" or "rumored," and not as positive information. If our readers will note these points they will see the necessity of the discrimination. We are always glad to have our attention called to errors that may occur.

HOW TO ADDRESS

The name of one or more incorporators of a newly incorporated enterprise should always be written on letter addressed to the official headquarters or to the town of the parties sought, as may be shown in the item. Sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. By following these general directions the post-office will generally be enabled to deliver your mail promptly, although it is inevitable that some failure by the postal authorities to deliver mail to new concerns will occur, as our reports are often published before new companies are known and before they have any established office for the receipt of mail.

WRITE PERSONAL LETTERS

In communicating with individuals and firms reported in these columns a letter written specifically about the matter reported will receive better and quicker attention than a circular. In most instances a return postal card or addressed and stamped envelope should be enclosed with letter.

In correspondence relating to information published in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

DAILY BULLETIN

The Daily Bulletin of the Manufacturers Record is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invaluable to manufacturers, contractors, engineers and all others who want to get in touch at the earliest moment with new undertakings, or the enlargement of established enterprises. The subscription price is \$25 per year.

All advertising contracts in the Manufacturers Record for three months or longer include a subscription to the Daily Bulletin for the contract period, as well as a subscription to the Manufacturers Record.

BRIDGES, CULVERTS, VIADUCTS

Fla., Pensacola.—Escambia County Commrs. will construct drawbridge spanning Bayou Chico; replace present bridge; provide access to shipyard plant (to be established) on eastern shore of Bayou Chico.

Md., Baltimore.—City will enclose arches at municipal end of bridges; estimated cost \$25,000; plans by Wm. W. Emmart, 1102 Union Trust Bldg., Baltimore.

W. Va., Fairmont.—City let contract John F. Casey Co., Pittsburgh, Pa., to construct reinforced concrete bridge over Monongahela River; total length 1320 ft.; width 56 ft.; 3 main reinforced concrete arches, each having 2 ribs and clear span of 250 ft.; approaches to include number of shorter reinforced concrete girder and slab spans; roadway grade 96 ft. above pool elevation; Palmer & Hornbostel, Const. Archts., New York, associated with Concrete-Steel Engineering Co., Designing Engrs., Park Row Bldg., New York, who will supervise construction. (Noted in December as inviting bids.)

CANNING AND PACKING PLANTS

Ga., Pomona.—Pomona Products Co., capital \$50,000, inceptd. by D. F. Patterson, R. T. Patterson and P. T. Harris.

S. C., Greenville.—W. H. Ballentine will install sausage factory.

Tex., Rock Island.—Figland Preserving Co., capital \$12,000, inceptd. by E. M. Frazee, S. E. McCully, H. F. Priemeyer and J. W. Hudson.

CLAYWORKING PLANTS

Tex., Elgin.—Bricks and Tile.—Elgin Brick & Tile Co. organized; A. L. Adams, Pres.; S. F. Kirksey, V.-P.; J. D. Guinn, Secy.; A. J. Kautz, Mgr.; let contract for erection 100x700-ft. and 110x250-ft. fireproof buildings; A. J. Kautz, Archt. and Constr. Engr.; purchased machinery; daily capacity 50,000 press brick and 150 tons building tile. (Late-ly noted.)

COAL MINES AND COKE OVENS

Ark., Denning.—Ozark Coal Mining Co. inceptd. with \$6000 capital.

Ga., Rising Fawn.—Georgia Iron & Coal Co., Joel Hurt, Pres., 1514 Hurt Bldg., Atlanta, plans development 45,000 acres coal, iron and manganese land in Bartow, Cherokee and Dade counties; proposes early installation of machinery for mining; probably use iron for supplying furnace at Rising Fawn, Ga.; understood contemplates blowing in this furnace.

Ky., Ashland.—Mile Branch Coal Co. increased capital from \$10,000 to \$50,000.

Ky., Barbourville.—Huron Coal Co., capital \$2000, inceptd. by R. H. Newitt, Henry Branstetter and Thos. D. Tinsley.

Ky., Barbourville.—Hi-Land Blue Gem Coal Co., capital \$2000, inceptd. by S. H. Jones, J. R. Jones and Chas. Jones.

Ky., Harlan.—High Point Coal Co. increased capital from \$12,000 to \$35,000.

Ky., Harlan.—Kenton-Puckett Corporation owns 18,000 acres coal land on waters of Puckett's Creek and tributaries; Will Ward Duffield, representative, advises Manufacturers Record: Propose to develop these lands by various coal leases, in areas varying, according to locality, between 600 and 1500 acres; construction of 8-mi. railroad up Lucketts Creek contemplated, to provide transportation facilities; leases available pending railway construction. (In November noted inceptd. with \$250,000 capital. H. Hardaway, Pres., St. Paul, Va.; J. F. Wysor, Secy., Pulaski, Va.; Chas. H. Davis, Treas., 33 Elmwood Ave., Cambridge, Mass.)

Ky., Hazard.—Clean Coal Co. inceptd. by David Y. Wooten, Lou Ann Edwards and Wm. B. Wooten.

Ky., Hazard.—Yerkes Coal Co. and Willard Coal Co. consolidated; increased capital from \$4000 to \$8000.

Ky., Pikeville.—Keel Coal Co. organized; J. L. Morgan, Pres.-Mgr.; D. T. Keel, V.-P.; J. F. Pauly, Secy.-Treas.; develop 200 acres; output not decided. (In December noted incorporated, capital \$15,000.)

Ky., Pikeville.—Red Fox Coal Co., capital \$6000, inceptd. by W. K. Elliott, A. J. Yonce and A. F. Childers.

Ky., Printer.—Printer Elkhorn Coal Co., capital \$10,000, inceptd. by A. J. May, Henry Porter and J. N. Harris.

Ky., Whitesburg.—Kingdom Come Coal Co., N. E. Pierson, Mgr., acquired 400 additional

acres coal land in Sandlick Creek section and will develop additional mines.

N. C., Cummock.—Cummock Coal Mining Co., maximum capital \$1,000,000, inceptd. with J. H. Young, Pres., Norfolk, Va.; R. H. Swarthout, V.-P., New York; M. Manly, Treas.; M. S. Hawkins, Secy.; both of Norfolk, Va.; J. T. Avery, Asst. Secy., New York; develop coal mines on Norfolk Southern R. R. in North Carolina; this is supplemental to charter of Piedmont-Cummock Co. lately noted inceptd. with \$500,000 capital and to have increased capital from \$500,000 to \$1,000,000.

W. Va., Charleston.—Stange-Elliott Coal Co., capital \$60,000, inceptd. by J. H. Gaines, B. D. Cassidy, H. G. Davis and others.

W. Va., Clarksburg.—Bowery Coal Co., capital \$25,000, inceptd. by Jas. W. Barnard, Frank M. Powell, H. W. Slattery and others.

W. Va., Fayetteville.—J. K. Gentry and Jos. N. Kenna, Charleston National Bank Bldg., Charleston, leased 1300 acres coal land at mouth of Paint Creek; organize company to develop.

W. Va., Tioga.—Bear Run Coal Co. inceptd. with \$5000 capital by W. S. McQueen, F. W. Collins and others.

COTTON COMPRESSES AND GINS

Fla., Fort Meade.—Pembroke Mine & Power Co. will establish cotton gin and compress.

S. C., Laurens.—Laurens Gin & Fuel Co. inceptd. by R. Coke Gray, J. W. Todd, Jr. and W. E. Meng; acquired ginnery; will remodel and install equipment.

COTTONSEED-OIL MILLS

Ga., Shellman.—Shellman Oil Co., capital \$50,000, inceptd. by F. S. Perry, G. M. Cochran and others.

Miss., Laurel.—Laurel Oil & Fertilizer Co. will rebuild plant reported burned at loss of \$60,000.

Tex., Marshall.—Marshall Cotton Oil Co. increased capital from \$75,000 to \$125,000.

DRAINAGE SYSTEMS

Fla., Whidden.—Kissimmee Cattle Co., W. E. Ward, Mgr., Kissimmee, Fla., will construct drainage system for 6000 acres land apportioned for growing cattle feed.

Mo., Gregory Landing.—Gregory Drainage District progresses; Edmund T. Perkins Engineering Co., 1210 First National Bank Bldg., Chicago, and 317 Illinois State Bank Bldg., Quincy, Ill. (lately noted preparing plans for 1-story brick pumping station, cost \$75,000), states preliminary plans are prepared, but Suprs. have not decided on type of power; purchased two 42-in. centrifugal pumps and second-hand steam engine for temporary use; plans will be re-drawn to suit electric or steam power.

ELECTRIC PLANTS

Ark., Hope.—City is considering installation of crude-oil engines in electric-light plant; Chas. M. Richards, Mgr.

Fla., Pensacola.—Pensacola Electric Co. contemplates constructing 13,200-volt transmission line to Pensacola Naval Station; Thos. J. Hanlon, Jr., Mgr.

Fla., Whidden.—Kissimmee Cattle Co., W. E. Ward, Mgr., Kissimmee, Fla., will build electric-light plant.

Fla., Wauchula.—City will vote on \$42,000 bonds to purchase or build electric-light plant, pay indebtedness, purchase cemetery and additional land for cemetery, and improve road to cemetery. Address The Mayor.

Ga., Powder Springs.—Domestic Electric Co., capital \$2500, inceptd. by J. D. Middlebrooks, W. L. Florence, J. A. Lewis and others.

Ky., Nortonville.—Norton Coal Mining Co. will erect brick addition to power-house, brick commissary and brick supply-house; bids until Feb. 10; plans on application to Rem Price, Archt., 518-519 Empire Bldg., Birmingham, Ala.

Ky., Walton.—Walton Electric Light Co., E. L. Kelley, Mgr., will install lately-noted oil engine, direct connected to 250-volt D. C. generator. (See Machinery Wanted—Tank; Generator.)

Miss., Canton.—City is considering installation of surface condenser for 200 H. P.

engine and spray equipment for cooling in municipal electric-light plant; John T. Sharp, Jr., Mgr.

Miss., Cleveland.—Home Light & Ice Co. contemplates installing 75 H. P. boiler.

Miss., Houston.—City contemplates installing electric-light plant; equipment to include 80 H. P. crude-oil engine, directly connected to 60 K. W., 3-phase, 2300-volt, revolving field motor and switchboard; A. G. Atkinson, Supt.

Miss., Poplarville.—Poplarville Light & Water Co. leased Poplarville Light & Water Co.'s water and electric-light systems; installing equipment, including 60 H. P. Remington oil engine and 10x12-in. Chicago Pneumatic Tool Co.'s compressor; use crude oil and distillate as fuel.

Mo., Ozark.—Finley Light Co., Geo. T. Breazeale, Mgr., will establish electric plant, cost \$15,000; use power from hydro-electric line. (Late-ly noted.)

Mo., St. Louis.—Union Electric Light & Power Co. plans to issue \$1,500,000 bonds and \$1,000,000 additional stock.

Mo., Wellspring.—Blattant Poultry & Mfg. Co. is reported to rebuild burned electric-light plant.

Okl., Canadian.—City contemplates voting on bonds to install electric-light plant and water-works. Address The Mayor.

Okl., Miami.—Empire District Electric Co. of Oklahoma increased capital from \$30,000 to \$200,000.

Okl., Prague.—City contemplates voting on bonds to improve electric-light system. Address The Mayor.

Tenn., Collinwood.—Tennessee Valley Iron & R. R. Co., Delmar E. Teed, Chief Engr., will install electric-light plant.

Tenn., Friendship.—Marvel Milling Co. purchased wires and other equipment of Friendship Electric Light & Power Co.; purchased new dynamo and will install in Main St. mill.

Tex., Amarillo.—City, A. D. Armstrong, City Mgr., will not vote on bonds at present. (Late-ly noted considering bonds.)

Tex., Ballinger.—Interstate Electric Co. M. F. Treadwell, Secy., contemplates extending electric transmission system.

FERTILIZER FACTORIES

Tenn., Mt. Pleasant.—International Agricultural Corp., 61 Broadway, New York (lately noted to rebuild burned plant) will construct 80x60-ft. building by own force, and repair machinery; ordered new equipment; Jas. A. Barr, Constr. Engr., Mt. Pleasant. (See Machinery Wanted—Crane.)

FLOUR, FEED AND MEAL MILLS

Ala., Birmingham.—Jos. B. Pool Flour Co., capital \$25,000, inceptd. by W. A. Abercrombie, V. R. Jones, E. T. Rice and Jos. B. Pool.

Ark., Fort Smith.—Red Cross Flour Co., capital \$10,000, inceptd. by D. O. Lane, Elmer E. Burton and Jennie E. McKim.

Fla., Jacksonville.—Seminole Remilling Co., capital \$5000, inceptd. by G. H. Schuler, Pres.-Treas.; Wm. C. Croom, V.-P.; J. A. Carr, Secy.

Ga., Tallapoosa.—Jackson Bros. Lumber Co. will install feed mill to grind into meal all grain, stalks, vines, husks, beans, etc.; capacity of grinding 20 to 25 tons of corn or cob with shuck per day, 20 tons velvet beans with vine and pods per day; peanut vines and alfalfa about same; install 50 H. P. engine, automatic feeder and sacker.

Ky., Louisville.—Louisville Milling Co. will erect 5-story brick building to cost \$13,000.

FOUNDRY AND MACHINE PLANTS

Ga., Augusta.—Mechanical Repair Shops—War Department, I. Littell, Brig.-Gen., Washington, D. C., let contract McKenzie Building Co., Augusta, to erect mechanical repair shops.

Md., Baltimore.—Carpenter Shop and Wash-house.—Bartlett Hayward Co., Scott and McHenry Sts., will erect carpenter shop; 1 story; frame; 32x50 ft.; also washhouse, 1 story, 31.6x79.6 ft.; Parker, Thomas & Rice, Archts., Union Trust Bldg.; Morrow Bros., Contrs., Fidelity Bldg.; both of Baltimore.

Md., Baltimore—Munitions.—Baretlett Hayward Co., Scott and McHenry Sts., has plans by Parker, Thomas & Rice, Union Trust Bldg., Baltimore, for about 9 temporary buildings for munitions factory; structures include 2 shops, one 800 to 900 ft. long; office building; boiler-house; machine shop; storage building; 2 oil storage tanks, one 75 ft. and other 32 ft. in diam.; Morrow Contrs., 1207 Fidelity Bldg., Baltimore. (Lately noted to have 90-acre site for munitions plant.)

Mo., St. Louis—Foundry, Forge, etc.—St. Louis Malleable Castings Co., Conduit Ave., is considering plans for construction of plant consisting of machine shop, forge foundry, electric-power plant and other buildings; estimated cost \$50,000.

Va., Richmond—Stoves.—Cameron Stove Co., Thos. W. Elliott, Prest.-Mgr., let contract to E. L. Bass & Bros., Richmond, to erect 75x150-ft. mill-construction warehouse building; cost \$10,000. (Lately noted to enlarge stove foundry.)

GAS AND OIL ENTERPRISES

Okla., Beggs.—Bagley Oil & Gas Co., lately noted inceptd., capital \$100,000, by C. H. Dexter of Beggs, and others, will install drilling equipment, piping, etc.; bids opened Feb. 1; Engr., W. A. Johnston, Minneapolis, Minn. (See Machinery Wanted—Pumps; Tanks.)

Ky., Lexington—Minn-Owen Oil Co., capital \$10,000, inceptd. by John Hayalett, T. F. McConnell and H. E. Bullock.

Ky., Lexington—Mammoth Producers' Oil Co., capital \$100,000, inceptd. by B. G. Pratt, Wm. A. Carter, August W. Axthel and W. A. Hall.

Ky., Louisville—Louisville Oil & Development Co. inceptd., with \$500,000 capital by Fred C. Maurer and others.

La., Jennings—Oil Refinery and Pipe Line, Republic Refining Co., Tulsa, Okla., is reported to build 2500-bbl. oil refinery and construct pipe line from Jennings to Cushing (Okla.) field.

Okla., Ardmore—Mutual Profit Oil & Gas Co., capital \$50,000, inceptd. by H. A. Ledbetter, Don Lacy and John R. Denning.

Okla., Oklahoma City—Little Giant Oil & Gas Co., capital \$100,000, inceptd. by Lon M. Frame, Geo. F. Short and N. W. Phillips.

Okla., Tulsa.—Oil Fields Utilities Co. inceptd. with \$60,000 capital by F. G. Viger, Frank Wolfe and A. MacDonnell.

Tex., Electra—Minnex Oil Co., capital \$5,000, inceptd. by C. A. Steelsmith and S. Walker of Electra, and Karl W. Thompson of Minneapolis, Minn.

Tex., Houston—North Humble Petroleum Co., capital \$300,000, inceptd. by P. Battelle, M. Schakzug and Mollie Battelle.

Tex., Houston—Kansas City-Houston Oil Co., capital \$500,000, inceptd. by T. J. McMillan, Jim R. Jacobs and Albert L. Holland; all of Anchor, Tex.

Tex., Sherman—Maple Oil & Gas Co. organized; G. O. Caldwell, Secy.-Treas., M. & P. Bank Bldg.; will let drilling contracts within 30 days. (Lately noted inceptd., capital \$50,000. (See Machinery Wanted—Well-drilling Equipment.)

HYDRO-ELECTRIC PLANTS

Ark., Mountain Home—Zinc & Iron Ore Co. organized to develop water-power in North Fork River and build smelters.

Ga., Dallas.—Dallas Utility Co., capital \$100,000, inceptd. by R. D. Leonard, J. W. Hay and J. F. Welch; operate plant to generate electricity, by water or steam power, for lighting cities, supplying power, etc.

ICE AND COLD-STORAGE PLANTS

Ala., Atmore.—W. M. Carney Mill Co. contemplates installing 10-ton ice plant to be operated in connection with electric-light plant; Ward Converse, Mgr. of Electrical Dept.

Fla., Whidden.—Kissimmee Cattle Co., W. E. Ward, Mgr., Kissimmee, Fla., will build ice factory.

Okla., Bartlesville.—Crystal Ice & Storage Co. contemplates rebuilding burned plant; triple capacity of former factory.

IRON AND STEEL PLANTS

Ga., Rising Fawn—Iron Furnaces.—Georgia Iron & Coal Co., Joel Hurt, Hurt Bldg., Atlanta, contemplates blowing in iron furnace.

Ga., Rome—Iron Furnaces, etc.—Dayton Company inceptd. with \$5,000,000 capitalization to consolidate Matthews Iron & Steel Co. with Dayton (Tenn.) Coal, Iron & R. R. Co. (See Tennessee, Dayton.)

Tenn., Dayton—Iron Furnaces, etc.—Dayton Company inceptd. with \$5,000,000 capitalization; consolidates Dayton Coal, Iron & R. R. Co. and Matthews Iron & Steel Co. of Rome, Ga.; plans \$100,000 expenditure for improvements; properties include 2 iron furnaces, 374 coke ovens, 27,000 acres coking coal land, 4000 acres coal land, limestone quarry, 17 mi. standard-gauge railway, 7 locomotives, 94 cars, river steamboat, 2 barges, 200 dwellings, etc.; appraised at \$3,969,000; located in Rhea County, Tenn., and Gordon and Walker counties, Ga.

LAND DEVELOPMENTS

Fla., Miami.—Bliss Properties, capital \$100,000, inceptd.; Alonso O. Bliss, Prest.; Bertha Bliss Brown, V.-P. and Treas.; Dean E. Brown, Secy.

Fla., Pensacola.—Bureau of Yards and Docks, Navy Dept., Washington, D. C., let contract W. P. Kennedy & Co., Tampa, Fla., at \$25,000 for improvements to drill grounds.

Fla., Wauchula.—De Soto Farms Co., capital \$25,000, inceptd.; Francis A. Harper, Prest.; Ernest W. Clark, V.-P.; H. C. Peterson, Secy.-Treas.

Fla., Wauchula.—City will vote on \$42,000 bonds to purchase and enlarge cemetery, etc. Address The Mayor. (See Electric Plants.)

S. C., Inman.—Inman Cemetery Corp., capital \$8000, chartered by A. M. Faison, W. M. Moore and N. C. Harris.

W. Va., Charleston—Upton Improvement Co., capital \$50,000, inceptd. by T. C. Townsend, E. S. Bock, E. A. Dover and others.

Va., Williamsburg—Pine Dell Plantation (owned by Pine Hill Coal Co., Minersville,

Ga., Rising Fawn—Iron and Manganese.—Georgia Iron & Coal Co., Atlanta, plans development 45,000 acres iron and manganese land. (See Coal Mines and Coke Ovens.)

Ky., Asphalt—Rock Asphalt.—Kentucky Rock Asphalt Co., F. W. Wood, Prest. and Gen. Mgr., Louisville, plans to increase output of rock asphalt mines on Green River in Edmondson County.

Ky., Mexico—Fluor spar.—Phelps & Hazell (T. N. Hazell, City Commr., and E. C. Phelps, both of Paducah, Ky.), advise Manufacturers Record: Have under lease over 400 acres fluor spar lands in Crittenden County; surface mining; expect to organize corporation within 60 days; then need mining machinery and sink deep shaft; also have 385 acres under option in Hardin County, Ill.; contemplate developments there. Lately noted. (See Machinery Wanted—Mining Machinery.)

Mo., Joplin—Lead and Zinc.—Miami Zinc & Royalty Co., T. F. Lennan, V.-P. and Gen. Mgr., 215 Sergeant Ave., plans additional developments and construction of additional mills.

North Carolina.—Carolina-Rochester Mining Co. chartered with \$200,000 capital by Arthur W. Britton, Samuel B. Howard and Geo. V. Reilly of New York.

Okla., Coalgate—Lead and Zinc.—Coalgate Lead & Zinc Mining Co., capital \$150,000, inceptd. by Mike Mayer, D. D. Brunson and J. W. Carter.

Okla., Lincolnville—Lead and Zinc.—Old Glory Lead & Zinc Co., Hartshorne, Okla., organized; C. S. Wingate, Prest.; G. A. Reidt, V.-P.; J. H. Baker, Secy.-Treas.; develop 80 acres; now prospecting. (Lately noted inceptd., capital \$25,000.)

La., Shreveport—Dyke.—State Board of Engrs. let contract Smith & Nordstrom to construct Twelve-Mile Bayou dyke, 12 mi. from Shreveport; height about 25 ft.; require placing of 65,000 cu. yds. of earth. (Lately noted.)

Okla., Oklahoma City—Mausoleum.—Fair-lawn Cemetery Association, Fred. E. Suits, Prest., has plans by Cecil E. Bryan of Chicago for mausoleum in Fairlawn Cemetery; 153x75 ft.; granite; contains 820 crypts and 12 rooms; chapel with seating capacity of about 100; cost \$70,000; also probably build \$10,000 crematory.

Va., Newport News—Pier and Wharf.—Newcomb Lifeboat Co. will build pier and wharf extending 1000 ft. on Sunset Creek.

MISCELLANEOUS ENTERPRISES

D. C., Washington—Portable Laundry.—Broadbent Portable Laundry Corp. chartered with \$100,000 capital by Jas. T. Broadbent, Frank F. Mitchell and Le Roy Mark.

Fla., Bartow—Mine and Mill Supplies.—Mine & Mill Supply Co. increased capital from \$100,000 to \$150,000.

Fla., De Land—Printing.—Record Printing Co., capital \$10,000, inceptd.; Elizabeth B. Prevatt, Prest.; G. N. Dozier, V.-P.; Preston G. Prevatt, Secy.-Treas.

Fla., Fort Lauderdale—Transportation.—Everglades Transportation Co., capital \$10,000, inceptd.; G. W. Gilliam, Prest.; Laisa Aunapu, V.-P.; John Aunapu, Secy.-Treas.

Ky., Louisville—Grain Elevator.—Indiana Elevator Co., capital \$100,000, inceptd. by K. Arnett, C. Smith and M. L. West.

Md., Myersville—Grain Elevator.—Farmers Mutual Exchange will enlarge and improve grain elevator.

N. C., Asheville—Plastering.—South Atlantic Plastering Co., capital \$50,000, inceptd. by Donald Greene, Bruce Drysdale and Geo. Wray.

N. C., Charlotte—Dyeing, etc.—Devonde Laboratories, capital \$5000, inceptd. by S. J. Devonde, L. W. Cohen and John Drysdale.

S. C., Georgetown—Publishing.—Georgetown Herald organized; Lawrence B. Steele, Prest.; T. W. Barfield, V.-P. and Mgr.; Jas. W. Wingate, Secy.-Treas.; install printing press; publish semi-weekly newspaper. (Lately noted inceptd., capital \$3000.)

Tenn., Knoxville—Construction.—Dempster Construction Co., capital \$25,000, inceptd. by Geo. R. Dempster, D. G. Seymour, R. F. Colgan and others.

MISCELLANEOUS FACTORIES

Ark., Little Rock—Bottling.—A. Tenenbaum will erect building; brick; 100x150 ft.; leased to bottling company.

Fla., Miami—Tanning Extract.—Walter J. Lloyd organizing \$300,000 company to build plant to manufacture leather-tanning extract from palmetto and mangrove root and bark.

Ga., Atlanta—Peanuts.—Louis Weigert, 428 E. Pratt St., Baltimore, Md., advises Manufacturers Record: Correct statement as to Atlanta peanut mill; completed survey of Southern peanut oil situation; soon will decide where to locate mill if determine to build; plans of self and associates uncertain. (Lately reported planning to establish peanut oil mill with annual crushing capacity 1,000,000 bu. peanuts.)

Ga., Rome—Army Uniforms.—A. W. Waters Co., Inc., will install about 80 sewing machines operated by electricity to manufacture khaki trousers for Government.

Md., Lake—Industrial Alcohol, etc.—West Virginia Pulp & Paper Co. accepted plans and specifications for plant (reported to cost \$3,000,000) for manufacturing industrial alcohol and other chemicals from pulp and paper-mill waste; main construction of reinforced concrete; let contract to Geo. A. Fuller Co., Fuller Bldg., New York. (Lately noted to build plant and letting contract to Geo. A. Fuller Co.)

N. C., High Point—Upholstery.—National Upholstery Co., capital \$5000, inceptd. by T. M. Hall, J. W. Clinard and P. A. Payne.

Okla., Sapulpa—Bakery.—Bouton Bakery will rebuild bakery reported burned at loss of \$2,000.

S. C., Florence—Builders' Supplies.—Forence Builders' Supply Co., capital \$10,000, inceptd. by J. C. Kendall and G. F. Duke of Florence and J. A. Spruill of Cheraw, S. C.

Tenn., Collinwood—Wood Alcohol, Acetate of Lime, etc.—Tennessee Valley Iron & R. R. Co. (Thos. S. Baile, V.-P., Arrott Bldg., Pittsburgh, Pa., Delmar E. Teed, Ch. Engr., Collinwood), will build \$1,500,000 wood distillation plant with daily consumption 250 cords wood; daily capacity to be 250 gals.

THE OFFICIAL PROPOSAL ADVERTISEMENTS

Appear This Week On Page 103

Notices of bond sales, construction and improvement contracts to be let, equipment and supplies to be purchased, franchises offered, etc., inserted in this department bring bids from the most important bond buyers, investors, financial institutions, contractors, engineers, architects, manufacturers, and supply houses throughout the country.

Rate 25 cents per line per insertion.

The PROPOSAL department goes to press 5 P. M. Tuesday for the issue of the following Thursday. If you cannot mail advertisement in time for any particular issue, please wire copy by day letter.

Send for booklet of testimonial letters from public officials who have used the PROPOSAL department of the Manufacturers Record, for bond sales, construction work, etc.

Pa.) will develop 1860 acres in James City County on St. James River. Lately noted as planning improvements to include building of town at wharf, railroad construction, etc.; I. P. Christensen, Engr. (See Machinery Wanted—Locomotives; Rails; Carts; Boat.)

LUMBER MANUFACTURING

Ark., Little Rock.—Mechanics' Lumber Co. increased capital from \$25,000 to \$40,000.

Ark., Little Rock.—Enterprise Lumber Co. increased capital from \$15,000 to \$25,000.

Ga., Sycamore.—John R. Barfield of Vienna, Ga., purchased timber (long leaf yellow pine) on 1850 acres; install sawmill with daily capacity 50,000 ft. lumber; erecting 50 dwellings and numerous shanties for employees; ordered trackage. (Lately noted under Ga., Ashburn.)

S. C., Anderson.—Builders' Lumber & Supply Co. consider increase of capital from \$10,000 to \$20,000.

Va., Pulaski.—W. F. White Lumber Co. inceptd. with \$25,000 capital; Allen T. Eskridge, Jr., Prest.; W. L. McGavock, V.-P.; W. F. White, Secy.-Treas.

METAL-WORKING PLANTS

D. C., Washington—Locks.—Liberty Lock Co. chartered with \$45,000 capital by W. T. Chapman, G. L. Harrison and H. Kozler Dulany, Jr.

MINING

Ark., Blytheville—Lead and Zinc.—Bobbie Lee Mining Co., capital \$20,000, inceptd. by R. E. L. Beardon, W. W. Hollipeter, B. F. Gay and others.

Ark., Mountain Home—Iron and Zinc.—Zinc & Iron Ore Co. organized to build smelters and develop water-power in North Fork River.

Okla., Miami—Lead and Zinc.—King Bee Mining Co., capital \$250,000, inceptd. by J. W. Faulkner of Miami, A. T. Snoddy of Stratford, Okla., and T. A. Hill of Roff, Okla.

Okla., Muskogee—Lead and Zinc.—Constitutional Lead & Zinc Mining Co., capital \$300,000, inceptd. by W. J. Pack, H. A. Saxon and Wm. S. Rogers.

Okla., Oklahoma City—Lead and Zinc.—Magnolia Lead & Zinc Co. chartered with \$250,000 capital by W. A. Darby, J. B. Aiken and J. M. Sullivan.

Okla., Pawhuska—Lead and Zinc.—Boo-Gr-Loo Mining Co., capital \$10,000, inceptd. by R. B. Boone, W. E. Graham and H. M. Loomer.

Okla., Vinita—Lead and Zinc.—Bear Cat Mining Co., capital \$50,000, inceptd. by E. L. Bagby, Jas. S. Davenport and F. M. Adams.

Okla., Vinita—Lead and Zinc.—Miami-Peoria Lead & Zinc Sales Co. chartered with \$25,000 capital by H. E. Byrne and N. L. Linebaugh of Vinita, and W. F. Robertson of Dallas, Tex.

MISCELLANEOUS CONSTRUCTION

Fla., West Palm Beach—Waterway Improvements.—Comms. Lake Worth Inlet District, E. E. Geer, Secy., Room 11, Postoffice Bldg., ask bids until March 5 to build inlet cut, approach channel and turning basin (inside work); outside approach channel, and jetties, all as Contract 1, including 248,683 cu. yds. earth, 39,830 cu. yds. rock, 5246 cu. yds. jetty heaving and 3268 tons jetty capping; also, Contract 2, creosoted wood wharf, involving 780-front-ft. creosoted dock and 1200-front-ft. creosoted bulkhead; Isham Randolph & Co., Chief Engrs., Barnett Bldg., Jacksonville, Fla.; C. C. Chillingworth, Atty. Bids previously noted for earlier date. (See Machinery Wanted—Waterway Improvements.)

wood alcohol, 52,000 lbs. acetate of lime and 12,375 bushels charcoal; all alcohol and lime taken by Government for manufacturing war munitions; will also manufacture tar and creosote; Tennessee management to consume charcoal for iron furnace it is now building; let plant construction contract to Thompson-Starrett Co., 51 Wall St., New York, under supervision of New York in personal charge at Collinwood; all other construction by Tennessee Valley corporation under direction Engineer Teed and J. D. Dunn, Gen. Supt.; Lieut. Clyde Gray, Highland Inn, Collinwood, to represent Government; various improvements, including construction of dwellings, water supply, sewers, electric-lighting system, etc., will cost \$500,000. Building details outlined in today's Building News under various classifications. (Suggests recent item reporting \$800,000 wood distillates plant.)

Tex., Dallas—Films.—Southern States Film Co., capital \$10,000, inceptd. by Ned E. Depinet, R. D. Thrash and W. H. Flippen.

Tex., Laredo—Soap.—Mexican-American Soap Co., increased capital from \$500 to \$15,000.

Va., Chilhowie—Brooms.—Jas. L. Vance & Co. are interested in proposed installation of machinery to manufacture brooms. (See Machinery Wanted—Broom Machinery.)

Va., Kilmarnock—Beverages.—Northern Neck Bottling Co. inceptd.; capital \$15,000; J. B. Cralle, Pres.; F. M. Armsworthy, Secy. Treas.

Va., Richmond—Mattresses.—Dixie Mattress Co. will erect factory in rear of 1405 E. Franklin St.; cost \$10,000.

W. Va., Huntington—Neckties.—Ernest G. Williams, 739 6th Ave., will organize company to establish necktie-manufacturing plant; erect 40x70-ft. 2-story brick building. (Lately noted.)

MOTOR CARS, GARAGES, TIRES, ETC.

Ark., Fort Smith—Automobiles.—Boehmer-Coffey Auto Co. organized; F. M. Coffey, Pres.; Ben Cravens, V.-P.; Gus Boehmer, Secy.; opened bids in January to erect 50x150-ft. fireproof building. (Lately noted inceptd., capital \$1800.)

Ky., Frankfort—Automobiles.—M. M. Allen Motor Co., capital \$15,000, inceptd. by M. M. Allen, Harry Penn and T. B. McGregor.

Ky., Versailles—Automobiles.—Miller-Field Motor Co., capital \$15,000, inceptd. by Geo. E. Goodwin, John U. Field and Scott G. Miller.

Md., Chestertown—Fire Truck.—Town Commissioners will order vote on \$6000 bonds for fire truck. (See Road and Street Work.)

Md., St. Helena—Automobile Assembling.—Government let contract Edward O. Scheid-ehelm & Co. of Chicago to erect automobile-assembling plant and repair shop for Quartermaster's Department; plans provide for 75 buildings; estimated cost \$2,500,000. (Lately noted.)

N. C., Forest City—Automobiles.—Forest City Motor Co., capital \$25,000, inceptd. by G. C. King, D. O. Brickett and J. H. Thomas.

Okl., Sapulpa—Garage.—Jucksch Garage Co., capital \$500, inceptd. by W. C. Jucksch, Frank Jucksch and Edward R. Jucksch.

Tenn., Chattanooga—Automobiles.—Brown-Simpson Motor Co., capital \$10,000, inceptd. by D. S. Simpson, A. K. Brown, R. E. Houston and others.

Tenn., Chattanooga—Automobiles.—Brown-Simpson Motor Co., capital \$10,000, inceptd. by D. S. Simpson, A. K. Brown, R. E. Houston and others.

Tenn., Jonesboro—Automobiles.—H. R. Parrott Motor Car Co. increased capital from \$10,000 to \$20,000.

Tenn., Nashville—Automobiles.—National Body & Mfg. Co., capital \$75,000, inceptd. by C. R. Wood, Louis Steinberg, J. K. Cravens and others, all officers of Dixie Auto Exchange, 102-06 Third Ave., North; manufacture automobiles, motor trucks, etc.

Tex., Fort Worth—Tires.—Economy Tire Co., capital \$10,000, inceptd. by J. Lester Coward, Louis A. Goldstein and Simon Segal.

Tex., Sherman—Garage.—Sherman Transfer & Livery Co., 116-22 E. Pecan St., will rebuild garage and barn reported burned at loss of \$50,000.

RAILWAY SHOPS, TERMINALS, ROUNDHOUSES, ETC.

Okl., McAlester.—Missouri, Kansas & Texas Railway, F. Ringer, Chief Engr., Dallas, Tex., states has no plans con-

templating installation of 12-stall roundhouse. (Recent report incorrect.)

ROAD AND STREET WORK

Ala., Decatur.—Morgan County will surface with stone and slag and other work incidental thereto, North and South State Highway, being part of State Trunk Road No. 1, between Albany and Hartselle; 9.17 mi.; 5950 cu. yds. stone surfacing, 9830 cu. yds. slag surfacing, 270.7 cu. yds. excavation, 20 lin. ft. 24-in. D. S. vitrified pipe and 8.17 mi. machine dressing; County Comms. receive bids until March 4; W. S. Keller, State Highway Engr., Montgomery. (See Machinery Wanted—Road Construction.)

Ark., Jonesboro.—Comms. Jonesboro-Nettleton Road District of Craighead County, V. C. Kays, Secy., let contract J. F. Morgan & Co. of Attalla, Ala., at \$125,589.50 to construct 11½ mi. of highway from Jonesboro to Nettleton and on Nettleton Ave.; asphaltic concrete; Klyce & Kackley, Engrs., Nashville. (Lately noted inviting bids.)

Ala., Selma.—City will construct 2000 ft. concrete curb and 12,000 sq. yds. concrete sidewalks on Alabama, Lamar and Selma Aves.; bids until Feb. 14; W. O. Crisman, City Engr. (See Machinery Wanted—Paving.)

Ark., Marshall.—Searcy County Improvement District 1, J. H. Robinson, Commr., Marshall, will construct 4½ mi. road to connect with Marion County, and 6½ mi. road to connect with Baxter County; \$20,000 bonds issued; has completed 15-mi. road in north-east direction; has not yet organized district for lately-noted road from Leslie to Snowball, 23 mi., estimated cost \$61,678.

Fla., Fort Pierce.—City, W. R. Jackson, City Clerk, will issue \$10,000 warrants for street improvements.

Fla., Starke.—Bradford County Comms. will engage engineering department of State Highway Com. to make survey of about 100 mi. of roads.

Ga., Summerville.—Chattooga County Commissioners have \$15,000 appropriation from State Highway Com. to be supplemented by \$15,000 county appropriation to improve road from Summerville to Menlo; portion of proposed Rome-Menlo Highway.

Fla., Wauchula.—City will vote on \$42,000 bonds to improve road to cemetery, etc. Address The Mayor. (See Electric Plants.)

Md., Chestertown.—Town Comms. will order vote on \$6000 bonds to improve Washington Ave. and \$9000 for fire truck. (Lately noted.)

Mo., Jefferson City.—Cole County Comms. let contract Pope Construction Co. and L. Brunner at \$17,563 to improve roads.

Okl., Miami.—Ottawa County Comms. reported to let contract soon for hard-surfaced roads, cost \$700,000. (In December noted voting \$350,000 bonds.)

Okl., Pawnee.—Pawnee County, Lagoon Township, J. D. Soulsby, County Clk., defeated bonds for road construction. (Noted in Dec.)

Tex., Brady.—McCulloch County, Road District No. 3 (including Rochelle, Placid, Mercury and Milburn Precincts) votes Feb. 23 on \$25,000 bonds to improve Fort Worth-Brady-Fort Stockton Highway; secured \$15,000 Federal-aid. Address County Comms.

Tex., Colorado.—Mitchell County votes Feb. 23 on \$100,000 bonds to construct roads. Address County Comms. (Lately noted to have defeated bonds.)

Tex., El Paso.—El Paso County, E. B. McClintock, County Judge, and L. A. White, County Engr., further advises Manufacturers Record relative to road construction: \$250,000 available; road from El Paso to Ysleta, 9 mi., 24 ft. wide, bituminous paving with concrete shoulder; Doniphans Drive Road, north from El Paso, 4 mi., same class materials; bids opened Feb. 4; county contemplates surfacing with gravel or crushed rock 12-mi. road from El Paso to Newman, to connect at Newman with State Highway of New Mexico. (Lately noted, with \$250,000 bonds voted.)

Tex., El Paso.—City will construct pavement on sections of Arizona, Laurel and Birch Sts.; bids until Feb. 7; Chas. Davis, Mayor. (See Machinery Wanted—Paving.)

Tex., Gonzales.—Gonzales County, Belmont District, voted \$75,000 bonds to construct roads. Address County Comms.

Tex., Jourdan.—Atascosa County, Puget Sound to Gulf Highway District No. 4, votes Feb. 16 on \$250,000 bonds to build Puget Sound Highway through county and improve tributary roads. Address County Comms.

Tex., Roby.—Fisher County, Special Road District No. 1, W. M. Hopson, County Judge, will issue \$100,000 bonds for road construction.

Tex., Seguin.—Guadalupe County, State Highway District, voted \$36,000 bonds to construct macadam road to connect with State highway between Houston and San Antonio; bonds to be supplemented by \$45,000 from Federal and State funds. Address County Comms.

Va., Portsmouth.—Norfolk County Farm Co., Geo. C. Stanley, Pres., will construct 4 mi. of road from Portsmouth to South Mills on condition State will extend highway.

W. Va., Martinsburg.—City will construct 17,499 sq. yds. brick paving, 7972 sq. yds. asphalt-macadam and 9530 lin. ft. concrete curbing on King, Queen and Martin Sts. and Virginia Ave.; include excavation, etc.; bids until March 1; T. W. Sparrow, Commr. of Streets. (See Machinery Wanted—Paving.)

SEWER CONSTRUCTION

Fla., Tampa.—City let contract Mabry & Owens of Tampa to construct storm drain at Spanishtown Creek and along Platt St., from Delaware Ave. to alley near Newport Ave.; appropriation for drain is \$8500 and for Brevard Ave. crossing \$3900.

Tenn., Collinwood.—Tennessee Valley Iron & R. R. Co., Delmar E. Teed, Chief Engr., will construct sewers.

Tex., Hillsboro.—City, W. H. Knight, Mayor, contemplates bond issue for installation of sewer-disposal plant and water-works improvement.

SHIPBUILDING PLANTS

Fla., Pensacola—Steel Vessels.—Pensacola Shipbuilding Co. elected officers: A. C. Ketter, Pres.; M. G. Elliott, V.-P.; Paul P. Stewart, Secy.; all of Chicago; acquires Michelet land on Bayou Chico for shipyard site; dredge bayou; build \$645,000 plant for constructing fabricated steel ships for Government; plant structures to include shops, slips, ways, offices, dwellings for employees, etc.; mechanical equipment to include sprinkler fire protection system; has Government contract for 10 ships of 9000 tons capacity, equipped with steam turbines; these vessels to cost \$14,580,000. (Pensacola Shipbuilding Co. lately noted organized by Ketter-Elliott-Erection Co. of Chicago to build plant and undertake this Government contract.)

Ga., Savannah—Wooden Ships.—National Ship Building & Dry Dock Co., Frank H. Meade, Gen. Supt., purchased 466 acres land on Hutchinson Island for shipyard site; build plant to construct wooden hulls and barges; has \$3,000,000 Government contract. (Previously noted to establish shipyards.)

Md., Baltimore—Steel Ships.—Foundation Co., Woolworth Bldg., New York, proposes to build plant for constructing steel ships; investigating waterfront property; advises Manufacturers Record: Our plans on this proposition have not yet matured to extent that we are able to give information.

TELEPHONE SYSTEMS

La., Welsh.—Planters' Telephone Co. will rebuild exchange reported burned.

TEXTILE MILLS

La., New Orleans—Hosiery.—National Hosiery Mills will add 20 knitting machines; purchased this new equipment.

Okl., Guthrie—Cotton Duck.—Pioneer Cotton Mills will build 122x100-ft. addition for weaving department; install looms to weave heavy cotton duck; purchased this weaving machinery; building and machinery to cost \$100,000. (Lately noted to arrange for weaving cloth, etc.)

S. C., Anderson—Hosiery.—Anderson Hosiery Mills chartered, capital \$50,000; R. H. Coney, Pres., Treas. and Mgr., St. George, S. C.; C. Gadsden Sayre, V.-P. and Secy.; Anderson; erect 50x100-ft. 2-story building; install machinery for daily capacity 240 dozen pairs half hose; floor capacity for increasing to 1000 dozen pairs; install finishing plant; electric-driven machinery; purchased knitting machines; needs the other equipment. (See Machinery Wanted—Finishing Machinery; Motors.)

S. C., Newberry—Print Cloth, etc.—Molloy Mfg. Co. will install 368 automatic looms to replace old type looms; also add 4650 spindles; purchased this new equipment.

WATER-WORKS

Fla., Whidden.—Kissimmee Cattle Co., W. E. Ward, Mgr., Kissimmee, Fla., will construct water-works.

Miss., Clarksdale.—Water and Light Commissioners contemplate installing 1000 H. P. water-tube boiler and 1000 K. W. turbo generator; boring 13-in. well furnishing 100 gals. per min., equipped with motor-driven Layne pump; W. W. Pointer, Supt.

Miss., Greenwood.—Light and Water Works Comms. contemplate installing turbine and centrifugal pumps; receiving estimates; Ray Stott, Mgr.

Miss., Poplarville.—Poplarville Light & Water Co. leased Poplarville Light & Water Co.'s electric-light and water plants; installing equipment, including 60 H. P. Remington oil engine and 10x12-in. Chicago Pneumatic Tool Co.'s compressor; use crude oil and distillate as fuel.

Okl., Canadian.—City contemplates voting on bonds to construct water-works and electric-light plant. Address The Mayor.

Okl., Kingfisher.—City plans expenditure \$50,000 for new water supply, capacity 500,000 gals.; bonds not yet voted. (Black & Veatch, Engrs., 597 Interstate Bldg., Kansas City, Mo., lately noted as preparing preliminary plans.)

Okl., Miami.—City will install new pumps, boilers, etc., in light and water plant; soon ask bids for drilling several deep wells. Address The Mayor.

Tenn., Collinwood.—Tennessee Valley Iron & R. R. Co., Delmar E. Teed, Chief Engr., will construct water-works.

Tex., Abilene.—City Com. authorized W. A. Riney and J. D. Trammell, Engrs., to invite bids on construction of reservoir on Elm Creek to impound city's future water supply; remove 500,000 yds. dirt; capacity 5,000,000,000 gals.; estimated cost \$200,000; Horace Roberts, City Secy. (City Comms. lately noted to have authorized \$230,000 bond issue.)

Tex., Hillsboro City.—W. H. Knight, Mayor, contemplates bond issue for increase of water supply and installation of sewer-disposal plant.

W. Va., Charleston.—Kanawha Water & Electric Co. will improve plant; fireproof buildings, etc.

WOODWORKING PLANTS

Fla., Jacksonville—Crates.—S. Sutton, 1057 E. Bay St., and associates plan to establish crate factory to utilize waste from 2 big planing mills. (See Machinery Wanted—Crates Machinery.)

Md., Baltimore—Millwork.—Richard Keating, Clifton Ave. and Western Maryland Ry. tracks, will rebuild plant reported burned at loss of \$15,000.

N. C., Henderson—Boxes.—C. D. Riggan, lately noted planning \$25,000 company to build wooden-box factory, has not completed organization; asks prices on equipment. (See Machinery Wanted—Box-factory Equipment.)

N. C., Plymouth—Staves, Shingles, etc.—A. U. Newberry contemplates developing pine, cypress and gum timber; considering installation of machinery to manufacture heading, staves, shingles, etc. (See Machinery Wanted—Stave and Heading Machinery, etc.)

S. C., Columbia.—Shandon Lumber & Mfg. Co., Shandon, Columbia, organized; \$10,000 capital stock; P. L. Skanes, Pres.-Mgr.; Walker Duke, Secy. (See Machinery Wanted—Woodworking Machinery.)

W. Va., Charleston—Furniture.—Townley Furniture Co., capital \$25,000, inceptd. by L. L. Townley, W. A. Tully, Vernon A. Cobb and others.

FIRE DAMAGE

Ala., Birmingham.—W. J. Daniels' residence at Trotwood Park; loss \$3500.

Ala., Ethelville.—School building. Address School Trustees.

Ala., Tuskegee.—Tuskegee R. R. depot; E. T. Varner, Pres. and Gen. Mgr., Tuskegee.

Ark., Bentonville.—Mrs. Jessie Dickinson's residence.

Ark., Cotton Plant.—Cotton Plant Industrial School; loss \$4000. Address Board of Freedmen, Pittsburgh, Pa.

Ark., Judsonia.—Ben Thompson's barn; loss \$10,000.

Fla., St. Petersburg.—Mrs. Lucy M. Johnson's residence.

La., Welsh.—Planters' Telephone Co.'s exchange.

Md., Baltimore.—Richard Keating's wood-working plant at Clifton Ave. and Western Maryland Ry. tracks; loss \$15,000.

Md., Baltimore.—Michael J. Fitzsimmons' residence, 2211-13 Eutaw Place, loss \$1500; C. M. Dodson, Jr.'s residence, 2217 Eutaw Place, loss \$3000 to \$5000; Benjamin Voloshin's residence, 2219 Eutaw Place, loss \$800 to \$5000; Israel Rosenfield's residence, 2221 Eutaw Place, loss \$1500; dwelling occupied by Hirsch Sharongrosky, 2223 Eutaw Place, loss \$5000; Geo. F. M. Hauck's dwelling, 2225 Eutaw Place, loss \$5000; dwelling occupied by Chas. G. Guth, 2227 Eutaw Place, loss \$4000; residence occupied by Mrs. Edward Morris, 2229 Eutaw Place, loss \$1000; Martin Dorman's residence, 2215 Eutaw Pl., loss \$30,000.

Md., Burkittsville.—Public school building; loss \$7000. Address School Trustees.

Miss., Laurel.—Laurel Oil & Fertilizer Co.'s plant; loss \$80,000.

Mo., Kansas City.—Standard Asbestos Mfg. & Insulating Co.'s plant at 3d St. and Highland Ave., loss \$35,000; structure was owned by Chas. H. Lyle, 207 Garfield Ave., loss \$10,000.

Mo., Kansas City.—Building at 18th and Holmes Sts., owned by A. Holtman and occupied by A. Holtman Heating Co. (loss \$50,000), Automatic Machine Co. (loss \$27,000) and Western Paper Box Co. (loss \$30,000); loss on building \$80,000; total loss \$157,000.

N. C., Charlotte.—Lamus Bldg., owned by F. C. Abbott; loss \$5000.

Okla., Sapulpa.—Bonton Bakery; loss \$10,000.

S. C., Brogdon.—W. T. Brogdon's warehouse.

S. C., Jonesville.—Mrs. Eugenia Hedgepeth's residence.

S. C., Yorkville.—H. F. Stevenson's residence on Howell's Ferry Road.

Tenn., Whitehaven.—High school; estimated loss \$75,000. Address City School Board.

Tenn., Columbia.—Mrs. Otey J. Porter's building, occupied by Rees Plumbing Co. and B. Silverman's dry goods store.

Tex., Abilene.—Walter Petree's residence; loss \$5000.

Tex., Dallas.—B. A. Gramatky's dwelling, loss \$3000; Mrs. L. M. Kirkpatrick's dwelling.

Tex., Fort Worth.—A. J. Long's dwelling; loss \$42,000.

Tex., Humble.—McLaughlin Bldg.; E. M. Isaacs's building; stores of Corley & Jackson and Tom Watson; building owned by Sam Hooks, Beaumont.

Tex., San Angelo.—John Harbin's residence; loss \$3000.

Tex., Sherman.—Sherman Transfer & Livery Co.'s garage and barn at 116-22 E. Pecan St.; estimated loss \$50,000.

Tex., Yoakum.—W. O. W. Bldg., loss \$25,000; Edwards Gilbert Mercantile Co.'s store, loss \$28,000; Yoakum Daily Herald office, loss \$8000; Singer Sewing Machine Co.'s building, owned by Mrs. A. E. Cummins, loss \$6000; total loss \$70,000.

Va., Charlottesville.—Main building at Blue Ridge Industrial School in Bacon's Hollow, 25 mi. northeast of Charlottesville; Rev. Geo. M. Mayo, Supt.

Va., Keysville.—Keysville High School. Address School Trustees.

Va., Norfolk.—Mrs. Clara S. Binger's residence on Roanoke Island.

Va., Oriskany.—M. A. Crush's residence, near Oriskany; loss \$5000.

Va., South Boston.—Independent Tobacco Warehouse; loss \$45,000.

W. Va., Bluefield.—Wm. Klush's residence; loss \$2500 to \$3000.

W. Va., Rippon.—J. E. Wiley's residence; loss \$5000.

style; low-pressure gravity heat; probably green tile roof; hardwood floors; porch tile; cost \$10,000; bids taken in about 2 weeks; A. Ten Eyck Brown, Archt., Atlanta.

Ga., Brunswick.—Monmouth Seed Co., Matawan, N. J., is reported to erect residence near Brunswick in connection with establishment of tomato farm and cannery.

Ga., Dulin.—J. R. Powell will renovate and enlarge residence; 2 stories; brick veneer; details not determined; P. E. Dennis, Archt., Citizens Southern Bank Bldg., Macon.

Ga., Macon.—W. M. Fowler will erect residence; frame; probably composition shingle roof; Nisbet & Dunwoody, Archts., Grand Bldg., Macon.

Ga., Macon.—Mrs. F. S. Perry, Camilla, Ga., will erect residence; 2 stories; frame; hot-water heat; Barrett specification roof; oak floors; stone work and columns; Indiana limestone and marble trim; 3 tile baths; speaking tubes; cost \$20,000; Chas. Edward Choate, Archt., Candler Bldg., Macon; O. B. Hines, Colored Pythian Temple, Macon, will superintend construction.

Ga., Sylva.—Mrs. A. R. Lovett is having plans prepared by T. M. Campbell, Johnson Bldg., Augusta, for enlarging and remodeling residence; erect additional story; frame; cypress shingles; tile baths.

N. C., Badin.—Tallahassee Power Co., Arthur V. Davis, Managing Official, Oliver Bldg., Pittsburgh, Pa., does not contemplate erecting 300 dwellings as lately reported.

N. C., Claremont.—Garland E. Hult will erect bungalow; Q. E. Herman, Archt., Hickory, N. C.

N. C., Hickory.—Albert Hefner will erect bungalow; Q. E. Herman, Archt., Hickory, N. C.; Edgefield.—Dr. B. F. Jones will erect brick residence.

Tex., Athens.—Thomas Matthews is having plans prepared by Walter G. Shadday, Athens, for residence; tile; brick veneer; 45x60 ft.; pine floors; steam heat; electric lighting; shingle or metal roof; cost about \$8000. (See Machinery Wanted—Roofing.)

Tex., El Paso.—Home Builders' Co. will erect dwelling at River and Octavia Sts.; cost \$5000.

Tex., San Antonio.—E. Willford will erect 6-room dwelling; cost \$3000.

Tex., Wichita Falls.—T. P. Adams is having plans prepared for \$25,000 dwelling.

Va., Hampton.—Elmer Wilson will erect dwelling.

Va., Norfolk.—War Department, Washington, D. C., will erect number of bungalows at army depot on Bush Bluff property; construction in charge of Major M. A. Butler.

Va., Richmond.—Carl A. Ruehrmund will erect brick dwelling on Hickory St.; cost \$2750.

GOVERNMENT AND STATE

La., Alexandria.—Courthouse and Postoffice. Treasury Department, Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., opened bids to extend and remodel courthouse and postoffice; W. O'Neil & Sons Co., Faribault, Minn., low bidder at \$72,992. (Lately noted.)

S. C., Spartanburg.—Camp.—War Department, Washington, D. C., will construct additional regimental camps for training depot at Camp Wadsworth; Brig. Gen. Carleton, in charge of training depot.

Va., Norfolk.—Dwellings.—War Department, Washington, D. C., will erect number bungalows at army depot on Bush Bluff property; construction in charge of Major M. A. Butler. (See Dwellings.)

HOSPITALS, SANITARIUMS, ETC.

Tex., Bay City.—Matagorda County votes Feb. 9 on \$20,000 hospital bonds. Address County Commrs. (Lately noted.)

Tex., Palestine.—International & Great Northern Rwy., J. C. Resch, Chief Engr., Houston, will not erect hospital building at Palestine as previously contemplated but will repair present structure. (Previously noted.)

Va., Danville.—Danville Anti-Tuberculosis League, Dr. R. B. James, Frank Talbott and others, Comm., is having plans prepared by J. Bryant Heard, Danville, for Hilltop Sanitarium. (Lately noted.)

HOTELS

Fla., Pensacola.—Plaza Hotel Co. will expend \$10,000 to remodel and erect 24-room addition to building.

Fla., Fort Lauderdale.—M. A. Hott is reported to have plans prepared by August

Geiger, Miami, Fla., for hotel; 4 stories; concrete; hollow-tile roof; tile lobby floors; 72 private baths; elevator; stores on first floor.

Fla., St. Petersburg.—A. C. Phell has permit to erect 6 additional stories to 4-story moving-picture, store and hotel building. (See Theaters.)

Ga., Swainsboro.—Hotel Marguerite Co. will erect additional rooms and remodel hotel and erect garage.

S. C., Augusta.—Aiken County Hotel Co., Inc., with \$25,000 capital by Harry H. Bell, Augusta, and Jas. A. Jackson.

MISCELLANEOUS

Ark., Little Rock.—Little Rock Boys' Club, T. J. Craighand, Supt., does not plan to erect clubhouse; will probably remodel building for club purposes. (Previously noted.)

La., New Orleans.—Restaurant.—Nortropic Cabarrus Co. will remodel building for restaurant.

La., Shreveport.—Fair.—Louisiana State Fair Association, George Freeman, Pres., will erect agricultural building at fair grounds; cost \$60,000.

Md., Baltimore.—Clubhouse.—Baltimore Yacht Club, foot of East Fort Ave., will move present clubhouse from Fort McHenry to old site, foot of Charles St., and remodel structure; construct 150-ft. pier, etc.; Isaac E. Emerson, Pres., and Commodore, Bromo Seltzer Tower Bldg.; J. A. Dinning, Secy., 815 Continental Bldg.

Md., Baltimore.—Club Building.—Democratic Organization Club of Twenty-second Ward, John H. Robinette, Pres., 400 S. Hanover St., will remodel residence at Hanover and Conway Sts. for club building; first floor for assembly-room; second, for billiard and pool rooms; third for reception hall; basement for ratskeller.

Tenn., Memphis.—Fair.—Tri-State Fair Association, G. A. Gerber, Pres., plans improvements to fair grounds.

Tex., San Antonio.—Home.—Salvation Army, 3019 River Ave., will erect rescue home; tile with brick facing; fireproof; wood floors laid in cement; cost \$30,000. (Lately noted.)

Tex., San Antonio.—Stables.—Southern Ice & Cold Storage Co. will erect stables; cost \$3000.

RAILWAY STATIONS, SHEDS, ETC.

Ala., Tuskegee.—Tuskegee R. R., E. T. Varner, Pres., and Gen. Mgr., Tuskegee, will probably rebuild depot noted damaged by fire.

Fla., Apopka.—Seaboard Air Line Railway, W. D. Faucette, Chief Engr., Norfolk, Va., will erect brick depot to replace structure lately noted destroyed by tornado.

Tex., Denison.—Texas Electric Railway, Burr Martin, Gen. Mgr., Dallas, will convert building into passenger and express station, remove tracks from Woodlake car barn and relocate in remodeled building. (Lately noted.)

Tex., Sherman.—Texas Electric Railway, Burr Martin, Gen. Mgr., Dallas, will convert building into passenger and express station.

SCHOOLS

Ark., Cotton Plant.—Bond of Freedman, Pittsburgh, Pa., is reported to erect fireproof building to replace structure noted damaged by fire at loss of \$4000.

Fla., Quincy.—Board of Public Instruction of Gadsden County will soon call election on \$30,000 bonds to erect school building.

Ga., Bostwick.—City voted \$10,000 bonds to erect school building. Address The Mayor.

Ga., Waynesboro.—Waynesboro School Trustees contemplate remodeling public school.

La., Houma.—Terrebonne Parish School Board, H. L. Bourgeois, Parish Supt., plans to issue \$75,000 school bonds.

Md., Burkittsville.—School Trustees will probably rebuild public school noted damaged by fire at loss of \$7000.

Okla., Chandler.—Board of Education will erect high school; details not determined; election Feb. 6 on \$54,000 bonds. Address John F. Snyder, Clerk. (Lately noted.)

Okla., Drumright.—City voted \$235,000 bonds to erect high school; W. E. Nicodemus, Mayor. (Lately noted.)

Okla., Stroud.—School District No. 54, Lincoln County, voted \$44,000 bonds to erect combination high and graded school. Address District School Trustees.

Tenn., Whitehaven.—City School Board will probably erect high school to replace

BUILDING NEWS

BUILDINGS PROPOSED

APARTMENT HOUSES

N. C., Charlotte.—V. J. Guthery is having plans prepared for 4-story apartment-house.

Va., Norfolk.—Jos. M. Clark abandoned plans for erection of proposed apartment-house for which Rosell Edward Mitchell, Norfolk, is archt.; cost \$60,000. (Lately noted.)

Va., Richmond.—Elizabeth V. Lee will erect apartment-house on Grove Ave., between Boulevard and Mulberry Sts.; cost \$36,000.

ASSOCIATION AND FRATERNAL

D. C., Washington.—Y. M. C. A., Wm. Knowles Cooper, Gen. Secy., 1732-44 G St., N. W., will erect building on Pennsylvania Ave.

BANK AND OFFICE

N. C., Charlotte.—Southern Express Co. will erect building on W. 4th St.

Tenn., Nashville.—C. B. Atkin will erect office building.

CHURCHES

Ga., Sparta.—Macedonia Baptist Church will erect building to replace structure damaged by storm.

Md., Odenton.—Protestant Episcopal Diocese of Maryland and Pennsylvania will erect church for 79th Division of National Army at Camp Meade; shape of cross; contain chapel, lounge-room and library for soldiers and sleeping quarters for clergymen; Rev. Julian D. Hamlin, rector, representing Pennsylvania Diocese, and Rev. S. Taggart Steele, Maryland Diocese, Meade; Geo. C. Thomas, Chmn. Comm., 1313 Fidelity Bldg., Baltimore, Md.

Tex., Fort Worth.—Rev. H. Thomison is interested in erection of Methodist Episcopal Church at Camp Bowie; cost \$3000 to \$4000.

Va., South Norfolk.—Liberty Street Methodist Church will erect building at Jackson and Ohio Sts.; cost \$10,000 to \$12,000. Address J. O. Babcock, 41 Chesapeake Ave.

CITY AND COUNTY

N. C., Durham.—Houses.—Board of Water Commrs. receives bids until Feb. 8 through A. J. Pollard, Pollard Hardware Store, Main St., for material and erection of 2 houses

at Flat River Station; plans and specifications on application to Mr. Pollard; Z. V. Gwynn, Chmn.; Harvey Bolton, Clerk.

Va., Norfolk.—Detention Station.—Board of Control, Thos. S. Purdie, Chmn., plans to erect detention station for contagious diseases; cost \$25,000.

Va., Roanoke.—Market and Assembly Hall.—City has tentative plans by Frye & Chesternan, Davis-Stephenson Bldg., Roanoke, for market and assembly hall and rearrangement of market square; plans include structure 80x150 ft.; 2 stories; brick construction; concrete basement equipped with cold storage; assembly hall on 2nd floor; provided with stage; mezzanine floor between market and assembly hall; stairway from 4 entrances leading to mezzanine and 2nd floor; will repave 5 blocks in vicinity of market. (Lately noted to vote Feb. 12 on \$300,000 bonds to erect structure.)

COURTHOUSES

La., Alexandria.—Treasury Department, Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., opened bids to extend and remodel courthouse and postoffice; W. O'Neil & Sons Co., Faribault, Minn., low bidder at \$72,992. (Lately noted.)

Okla., Ada.—Pontotoc County Commrs. purchased site for courthouse.

DWELLINGS

D. C., Washington.—D. J. Dunigan has plans by B. Stanley Simmons, Real Estate Bldg., Washington, for 2 brick dwellings, 2310-12 California Ave.; cost \$25,000.

D. C., Washington.—H. R. Howenstein Co., 1314 F St., N. W., will erect 4 brick dwellings, 497-13 Randolph St., N. W.; 8 rooms; 21½x50 ft.; tin or slag roof; wood floors; hot-water heat; cost \$15,000; W. E. Howser, Archt., 37 New York Ave., N. E., Washington; construction by owner.

Fla., Vero.—M. J. Travis will erect bungalow; 7 rooms; electric lights.

Fla., Vero.—B. F. McFarland will erect residence.

Ga., Albany.—D. L. Beatie will erect \$5000 building.

Ga., Atlanta.—R. M. Walker, care of Walker Electric & Plumbing Co., Rhodes Bldg., will erect residence; 1 story; brick; Tudor

structure noted damaged by fire at loss of \$75,000.

STORES

Fla., Fort Lauderdale.—M. A. Hortt is reported to have plans by August Geiger, Miami, for 4-story concrete hotel with stores on first floor. (See Hotels.)

Fla., St. Petersburg.—A. C. Phell has permit to erect 6 additional stories to 4-story moving-picture, store and hotel building. (See Theaters.)

Ga., Fort Valley.—Edwards Brothers have plans by Hupp & Shelverton, Fourth Natl. Bank Bldg., Macon, to remodel front of store building; install plate-glass show windows; copper construction; gum panels in back; tile vestibule.

Ga., Atlanta.—New York Waist House leased portion of ground floor of Connally Bldg. and will make alterations.

Ga., Milledgeville.—J. F. Bell will remodel and enlarge store building.

Ky., Nortonville.—Norton Coal Mining Co. opens bids Feb. 10 to erect commissary, supply house and addition to power-house; all brick construction; plans on application to Ben Price, Archt., 518-19 Empire Bldg., Birmingham, Ala.

S. C., Bishopville.—W. C. Rogers will erect building to replace burned structure.

Tenn., Knoxville.—J. B. & W. G. Brownlow purchased Southern Express Co.'s building and will remodel for business building.

Va., Hampton.—Wilson Bros. will erect store building.

THEATERS

Fla., St. Petersburg.—A. C. Phell has permit to erect 6 additional stories to 4-story moving-picture, store and hotel building under construction; plans by W. S. Shull, Box 1834, St. Petersburg, call for structure 80x100 ft.; brick, reinforced concrete and frame construction; slag roof; wood floors; vapor system of heat; construction by owner. (Previously noted.)

WAREHOUSES

Fla., Quincy.—Weil Tobacco Co. will erect addition to warehouse; 40x150 ft.

Tex., San Antonio.—Webster Company will erect warehouse; cost \$9000.

Va., South Boston.—Independent Warehouse Co. Inc., D. T. Reeves, Pres., will erect warehouse to replace structure noted damaged by fire at loss of \$45,000.

BUILDING CONTRACTS AWARDED

ASSOCIATION AND FRATERNAL

Ga., Atlanta.—Dist. Grand Lodge No. 18, G. U. O. O. F., let contract to Alex. D. Hamilton, 69 Ivy St., Atlanta, to remodel one floor of building for offices; cost \$3500; Edwards & Sayward, Archts., Atlanta. (See Bank and Office.)

Okla., Bartlesville.—A. L. McGregor, Bartlesville, general contractor to erect office, lodge and store building for Masonic Lodge, let following sub-contracts: Electric wiring, Sun Electric Co.; plumbing and heating, Sill-Orr Heating Co.; both of Bartlesville; terra cotta, American Terra Cotta & Ceramic Co., Chicago; millwork, Ulrich Planing Mill Co., Independence, Kan.; plans by Walter Everman, Bartlesville, call for 8-story structure; 100x140 ft.; reinforced concrete; asphalt roof; concrete floors; cost \$300,000. (Lately noted.)

BANK AND OFFICE

Ga., Atlanta.—Dist. Grand Lodge No. 18, G. U. O. O. F., let contract to Alex. D. Hamilton, 69 Ivy St., Atlanta, to remodel one floor of 6-story building at 200 Auburn Ave., for offices; marble, tile and hardwood floors; cost \$3500; Edwards & Sayward, Archts., Atlanta.

Ga., Atlanta.—Gude & Co., Atlanta, general contractors to erect Brown-Randolph Bldg., let contract for electric work, plumbing and heating to Walker Electric Co., Atlanta; structure 100x150 ft.; 8 stories and 2 basements; reinforced concrete construction and floors; composition roof; elevators; vault lights; cost \$350,000; A. Ten Eyck Brown, Archt., Atlanta. (Other contracts previously noted.)

Ga., Lincolnton.—Anderson & Sons, Danburg, Ga., let contract to erect building for store and offices. (See Stores.)

Ga., Lincolnton.—Anderson & Sons, Danburg, Ga., let contract to C. L. Rounds, Greenwood, S. C., to erect store and office building. (See Stores.)

Okla., Bartlesville.—A. L. McGregor, Bartlesville, general contractor to erect office, store and lodge building for Masonic lodge, let various sub-contracts. (See Association and Fraternal.)

S. C., Bishopville.—Farmers' Loan & Trust Co. let contract to Palmer-Spivey Construction Co., Campbell Bldg., Augusta, Ga., to erect proposed bank building; Indiana limestone front; cost \$7000.

S. C., Bishopville.—People's Bank and National Bank of Bishopville let contract to Palmer-Spivey Constr. Co., Campbell Bldg., Augusta, Ga., to repair building recently damaged by fire.

Tenn., Collinwood.—Tennessee Valley Iron & R. R. Co., Thos. S. Baile, V.-P. and Gen. Mgr., Arrott Bldg., Pittsburgh, Pa., let contract to Thompson-Starrett Co., 49 Wall St., New York, to erect 2-story building 24x40 ft., for offices, etc., also 4-story brick building 150x165 ft., for offices, banks, etc. (See Miscellaneous Structures.)

Tex., Dallas.—Murray Company let contract to W. C. Hedrick Construction Co., Dallas, to erect office building; 2 stories and half basement; 50x100 ft.; concrete construction, roofing and floors; plans by owner. (Lately noted.)

CHURCHES

Md., Baltimore.—Independent Methodist Episcopal Church let contract to R. C. Boone, 3520 Falls Road, Baltimore, to erect 2-story stone building on West Biddle St.; cost \$30,000; J. C. Freund, Archt., 11 E. Lexington St., Baltimore.

Tex., Fort Worth.—First Christian Church let contract to Heck & Lightfoot, Fort Worth, for interior finish of west end of church for Sunday-school department; cement, floors finish, etc.; hot-air heat; electric lights; cost \$500; Van Slyke & Woodruff, Archts., Fort Worth. (Previously noted.)

Tex., Waxahachie.—W. W. Walston, Waxahachie, general contractor to erect Central Presbyterian Church building, let following sub-contracts: Steelwork, Austin Bros.; terra cotta, Atlantic Terra Cotta Co.; both of Dallas; concrete, J. C. Jarrett, Waxahachie; stone, J. B. Hoffman, Fort Worth; plans by C. D. Hill & Co., Dallas, call for 2-story and basement structure; 70x110 ft.; concrete, brick, steel and wood; slate or composition shingle roof; cement and tile floors; steam heat; electric wiring; cost \$80,000. (Previously noted.)

CITY AND COUNTY

Ga., Macon.—Comfort Station.—City let contract to W. D. Griffin, Macon, to erect comfort station at Cherry and 3rd Sts., Dunlap Park; 20x28 ft.; reinforced concrete; tile floors; reinforced concrete roof; cost \$1200; lighting \$125; Hupp & Shelverton, Archts., Macon; construction begun. (Lately noted.)

Va., Richmond.—Market.—City let contract to C. H. Archer, 2515 Hanover Ave., Richmond, to repair vegetable market; cost \$845. (Lately noted.)

COURTHOUSES

Ky., Eddyville.—Lyon County Commrs. let contract to Sherrell-Russell Lumber Co., Paducah, Ky., to erect courthouse; brick; cost \$14,000. (Previously noted.)

DWELLINGS

Fla., Gulfport.—Mike Trexler let contract to Oscar C. Weaver to erect 6-room residence; bungalow type.

Ga., Atlanta.—Standard Loan & Realty Co., 200 Auburn Ave., let contract to Alex. D. Hamilton, Atlanta, to erect residence; 9 rooms; bungalow style; frame; composition roof; wood floors; electric lights; cost \$3650. (Lately noted.)

Ga., Hawkinsville.—M. G. Willcox let contract to S. W. Conner, Hawkinsville, to erect 8-room bungalow.

Ga., Macon.—K. W. Snipes let contract to E. J. Arnold, Macon, to erect residence; brick veneer; Carey roof; hardwood floors; cost \$6000; Nisbet & Dunwoody, Archts., Macon.

Ga., La Grange.—Unity Cotton Mills is reported to have let contract to West Point Iron Works, West Point, Ga., to erect 35 mill cottages; frame; shingle roof.

Tenn., Collinwood.—Tennessee Valley Iron & R. R. Co., Thos. S. Baile, V.-P. and Gen.

Mgr., Arrott Bldg., Pittsburgh, Pa., let contract to Thompson-Starrett Co., 49 Wall St., New York, to erect 100 dwellings in connection with wood distillation plant. (See Miscellaneous Structures.)

Tex., Athens.—R. Royall let contract to Walter G. Shadday, Athens, to design and erect frame dwelling; 28x36 ft.; shingle roof; electric lights; cost \$2000.

Tex., Houston.—Carter Lumber Co. let contract to P. E. Rech, Houston, to erect 1-story frame dwelling at Woodland and Beauchamp Sts., Woodland Heights; 6 rooms and bath; front and rear porches; garage and detached boxhouse for servants; cost \$2200.

Tex., San Antonio.—Harry H. Stine let contract to John Haggy, San Antonio, to erect residence at Michigan and Huisache Sts.; 40x60 ft.; frame; shingle roof; electric lights; cement sidewalks; cost \$5000; C. B. Schoepfle, Archt., 705 Brady Bldg., San Antonio.

Va., Newport News.—Newport News Shipbuilding & Drydock Co. let contract to Mellon & Stuart, Munsey Bldg., Washington, D. C., to erect 200 dwellings for employees; cost \$100,000; cost plus basis. (Lately noted.)

Va., Portsmouth.—Mrs. Sarah Berman has plans by and let contract to C. N. Moody, 614 London St., Portsmouth, to alter store and residence. (See Stores.)

Va., Portsmouth.—C. C. Harris let contract to J. N. Harris, 324 Chotogoa Ave., Portsmouth, to erect 5 bungalows on South St.; 6 rooms; brick and shingles; asphalt shingle roof; rift pine floors; hot-air heat; city lighting; concrete sidewalks; cost \$3000 each. (Lately noted.)

Va., Richmond.—K. E. Hare's Estate will repair burned structure at Fourth Ave. & Magnolia St.; mostly roof and attic, 30x46.5 ft., 8-ft. pitch; frame and slate; electric lights (contract let); let contract for carpentry and slating; papering, painting and plastering ready for bids as soon as roof is on; cost \$2000. Address J. C. Sanders, Supt., 1319 Fourth Ave. (Lately noted.)

Va., Portsmouth.—L. C. Daugherty let contract to C. N. Moody, Portsmouth, to erect residence; 22x48 ft.; frame; slate roof; frame floor construction; brick sidewalks; cost \$3750; John W. Hudler, Archt., 5th St., Portsmouth. (Lately noted.)

GOVERNMENT AND STATE

Ga., Augusta.—Barracks.—War Department, Washington, D. C., let contract to Sibert & Robinson, Augusta, to erect 3 buildings on Arsenal Grounds for use temporarily as barracks, later as warehouses; frame; cost \$26,000.

Ga., Americus.—Aviation.—War Department, Washington, let contract to Southern Ferro Concrete Co., Atlanta, to erect buildings on 3 aviation fields; accommodations for 1100 men and 70 machines.

Ga., Milledgeville.—Dormitory.—State let contract to erect dormitory for negroes at State Asylum. (See Hospitals.)

N. C., Burlington.—Postoffice.—W. H. Stillwell, Savannah, Ga., general contractor to erect postoffice building, let following sub-contracts: Limestone, Hoosier Cut Stone Co., Bedford, Ind.; granite, Stone Mountain Granite Corporation, Stone Mountain, Ga.; glass and glazing, Binswanger & Co., Richmond, Va.; reinforcing rods, Concrete Steel Co., New York; miscellaneous metal, Decatur Corncie & Roofing Co., Albany; reinforcing fabric, waterproofing, metal lath, corner bead, etc., Southern G. F. Co., Atlanta; terrazzo, tile and marble, McClamrock Co., Greensboro, N. C.; millwork, Cole Mfg. Co., Memphis, Tenn.; vault doors, Diebold Safe & Lock Co., Canton, Ohio; cement ("Lehigh"), Kirk-Holt Hardware Co., Burlington; finish hardware, Henry Keidel & Co., Baltimore; roofing and sheet metal, E. C. Pacetti Son, Savannah; 65x70 ft.; brick; composition roof; reinforced concrete floors; Jas. A. Wetmore, Archt., Treasury Dept., Washington. (Previously noted.)

HOSPITALS, SANITARiums, ETC.

Ga., Milledgeville.—State let contract to J. F. Du Pree Sons Co., Rome, Ga., to erect dormitory for negroes at State Asylum; brick and wood; tin roof; wood floors; cost \$90,000; T. H. De Saussure, Engr., Milledgeville. (Lately noted.)

HOTELS

Tenn., Collinwood.—Tennessee Valley Iron & R. R. Co., Thos. S. Baile, V.-P. and Gen. Mgr., Arrott Bldg., Pittsburgh, Pa., let contract to Thompson-Starrett Co., 49 Wall St., New York, to erect building for hotel, stores, etc.; 4 stories; brick; 165x150 ft.; elevators;

electric lights; steam heat. (See Miscellaneous Structures.)

Va., Norfolk.—Monticello Realty Co., Chas. H. Consolvo, Pres., and Gen. Mgr., let contract to J. L. Stuart & Co., Pittsburgh, Pa., to rebuild Monticello Hotel lately noted damaged by fire at loss of \$750,000; 8 stories; portion of standing walls of 6-story structure will be used; 350 rooms; ballroom and roof garden on 7th floor; ballroom enclosed in glass; 4 cafe rooms on 6th floor; 8th floor for sample rooms; brick; fireproof; install new lighting system; Peebles & Ferguson, Archts., Norfolk. (Lately noted.)

W. Va., Berkeley Springs.—Berkeley Springs Bath, Sanitarium & Hotel Co. let contract to G. W. Ensign, Inc., Harrisburg, Pa., to erect sanitarium and hotel; steel frame and hollow tile; concrete floor base; steam heat; electric lights; cost \$250,000; Frank G. Fahnestock, Jr., Archt., Harrisburg; plans ready March 1. (Previously noted.)

MISCELLANEOUS

Tenn., Collinwood.—Eating-house, etc.—Tennessee Valley Iron & R. R. Co., Thos. S. Baile, V.-P. and Gen. Mgr., Arrott Bldg., Pittsburgh, Pa., let contract to Thompson-Starrett Co., 49 Wall St., New York, to erect buildings in connection with \$1,500,000 Government wood distillation plant; sleeping quarters building to accommodate 300 men; eating-house; 2 story building 24x40 ft., for offices, sleeping quarters, meeting-room and shower baths; 100 dwellings; 4-story brick block 165x150 ft., for company store (50x100 ft.) and 2 additional storerooms, bank, offices, warehouse, hotel, equipped with elevators, steam heat, electric lights, etc.; cost of buildings (exclusive of plant) about \$500,000; W. J. Summers, 49 Wall St., New York, in personal supervision of work; W. M. Martin, Grand Rapids, Wis., general foreman; plans by Delmer E. Teed, Chief Engr. of Tennessee Valley Corp., Collinwood, under direction W. W. Mathews, Const. Engr.; construction by force account of Tennessee Valley Corp. under direction of Engineer Teed and J. D. Dunn, Gen. Supt.

Tex., Fort Worth.—Exhibit.—B. W. Owens Lumber Co., Fort Worth, has contract to erect automobile exhibit building on Coliseum grounds; frame; 100x155 ft.

SCHOOLS

Tex., Stephenville.—Directors Agricultural and Mechanical College let contract to erect Junior A. & M. College. (See Tex., Prairie View.)

Tex., Prairie View.—Directors Agricultural and Mechanical College of Texas, W. B. Bizzell, Pres., College Station, Tex., let contracts for agricultural building at Prairie View Normal and Junior A. & M. College at Stephenville to Walsh & Burney, Austin, and J. E. Johnson, Waco, respectively; also let contracts for furnishings for 2 buildings as follows: Prairie View, heating, Dixie Heating Co., Houston; plumbing, Donnelly & White Austin; electrical fixtures, Eugene Ash Electric Co., Fort Worth; Stephenville, heating, Dixie Heating Co., Houston; plumbing, Montrie & Manchester, Fort Worth; electrical fixtures, J. M. Johnson, Dallas. (Lately noted.)

STORES

Ala., Montgomery.—D. C. Knox let contract to Hugger Bros., Montgomery, to erect store building; cost \$3000.

D. C., Washington.—Henry Xander and others let contract to Arthur M. Poynton, 715 Fourteenth St. N. W., Washington, to remodel store, 900 Seventh St. N. W.; 22x100 ft.; steel beams; wood-joint construction; slag roof; wood floors; cost \$9400; elevator, \$2200.

Ga., Lincolnton.—Anderson & Sons let contract to C. L. Rounds, Greenwood, S. C., to erect building for store and offices; 60x55 ft.; brick and wood; Carey roofing; wood floors; Deleo lighting system; hand-power freight elevator; cost plus 10 per cent.—about \$13,000; Bleckley & Irvin, Archts., Augusta. Address contractor or owners.

Ga., Lincolnton.—Anderson & Sons, Danburg, Ga., let contract to C. L. Rounds, Greenwood, S. C., to erect store and office building; plans by Bleckley & Irvin, 1210-11 Lamar Bldg., Augusta, call for 2 stories; brick; 60x55 ft.; face brick exterior; Cary roof; plate-glass front; Deleo lighting system; 2000-lb. capacity hand-power elevator; tile entrances; electric fixtures; 3 stories on ground floor; 12 offices above. (Previously noted.)

Okla., Bartlesville.—A. L. McGregor, Bartlesville, general contractor to erect store, offices and lodge buildings for Masonic

Lodge, let various sub-contracts. (See Association and Fraternal.)

Oklahoma, Broken Bow.—Frank Yawtis has plans by and let contract to R. D. Cheatham, Broken Bow, to erect store building; 25x100 ft.; brick walls; concrete floors; metal ceiling; Johns-Manville asbestos roof; concrete floors; flues; electric wiring; plain concrete sidewalks. (Lately noted.)

Texas, San Antonio.—Maverick Estate let contract to Jim Aiken, Delmer St., San Antonio, to alter and enlarge building at 334 E. Houston St.; Emmett Jackson, Archt., San Antonio; construction begins Feb. 5. (John Williams lately noted to make these improvements.)

Va., Portsmouth.—Mrs. Sarah Berman has plans by and let contract to C. N. Moody, 614 London St., Portsmouth, to repair store and residence on County St.; 32x80 ft.; brick; metal roof; frame floors; brick sidewalks; cost \$2464; lighting, \$90. (Lately noted.)

WAREHOUSES

Tenn., Collinwood.—Tennessee Valley Iron & R. R. Co., Thos. S. Baile, V.-P. and Gen. Mgr., Arrott Bldg., Pittsburgh, Pa., let contract to Thompson-Starrett Co., 49 Wall St., New York, to erect building for warehouse, etc., in connection with wood distillation plant. (See Miscellaneous Structures.)

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Manufacturers and others in need of machinery or supplies of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery or supplies needed we will make their wants known free of cost, and in this way secure the attention of manufacturers and dealers throughout the country. The Manufacturers Record has received during the week the following particulars as to machinery and supplies wanted.

"WANTS"

Barrel Machinery.—W. E. Richardson, Cash, Beaufort Bank, Beaufort, S. C.—Names and addresses of manufacturers of barrel machines for constructing 3-bu. standard stave barrels for potatoes.

Bituminous Materials (Road).—Virginia State Highway Comm., Richmond, Va.—Bids until Feb. 20 for furnishing, or applying, or furnishing and applying bituminous materials for surface treatment of roads, aggregate about 1,043,700 gals.; specifications and points of delivery on file in office of G. P. Coleman, State Highway Comm., Richmond, Va.

Boat (Schooner).—Pine Dell Plantation, J. P. Christensen, Engr., Williamson, Va.—Prices on schooner to carry mine props; capacity 40 tons.

Boilers (Fire Box).—Rosenthal, Brown Co., Eunice, La.—Prices on several fire-box boilers, with stacks; 60 to 100 H. P., good condition; give full details.

Boilers.—C. D. Riggan, Henderson, N. C.—Prices on boilers.—See Box Factory Equipment.

Box Factory Equipment.—C. D. Riggan, Henderson, N. C.—Prices on machinery for (wooden) box factory, including boilers and engines.

Box Shooks.—Forester Canning Co., North Wilkesboro, N. C.—10,000 No. 2, 10,000 No. 10 and 25,000 No. 3 packers' box shooks.

Broom Machinery.—Jas. L. Vance & Co., Chilhowie, Va.—Prices on machinery to equip broom factory.

Cars (Dump).—Pennsylvania Equipment Co., 1420 Chestnut St., Philadelphia, Pa.—4 to 6 standard gauge 10 to 30-yd. dump cars.

Car (Dump).—John G. Duncan Co., 38 W. Jackson Ave., Knoxville, Tenn.—Dealers' prices on 8 to 20-yd. standard-gauge dump car; give full description.

Carts (Timber Hauling).—Pine Dell Plantation, J. P. Christensen, Engr., Williamson, Va.—Prices on carts for hauling timber.

Crane (Locomotive).—International Agricultural Corp., Mt. Pleasant, Tenn. (New York office at 61 Broadway).—Prices on 10-ton, double-drum locomotive crane; second-hand.

Crate Machinery.—S. Sutton, 1027 E. Bay St., Jacksonville, Fla.—Machinery to manufacture crates from waste of 2 planing mills.

Engine (Gasoline).—See Wood-cutting and Splitting Machine.—Anderson Lumber Corp. Engines.—C. D. Riggan, Henderson, N. C.—Prices on engines.—See Box Factory Equipment.

Fiber-board Manufacturers.—George Whitefield Chance, Archt., Philadelphia, Pa.—To correspond relative to manufacture of fiber-board of new composition for building purposes; manufacture by hot rolls of large sheets under pressure.

Generating Sets.—Service Equipment Co., Machinery Floor, Bourse Bldg., Philadelphia, Pa.—Dealers' prices on 35 K. W., 3-phase, 60-cycle, 220-volt, direct-connected engine generator set, and eight 7½ to 10 K. W., 500 K. P. M., direct-connected, vertical-engine generator sets or turbo-generator sets, 110 or 220 volts, D. C.; state specifications and inspection location.

Cranes (Electric Overhead).—Service Equipment Co., Machinery Floor, Bourse Bldg., Philadelphia, Pa.—Dealers' prices on 15 to 20-ton 3-motor, electric overhead crane, 40-ft. span, 220 volts, D. C.; also 20 to 40-ton, 3-motor, electric overhead crane, 70 to 75-ft. span; state specifications and inspection locations.

Finishing (Hosiery) Machinery.—Anderson Hosiery Mills, C. Gadsden Sayre, V.-P., Anderson, S. C.—Equipment for hosiery finishing; daily capacity 240 doz. prs.

Gear Cutter, etc.—Stanton Foundry & Machinery Co., Palatka, Fla.—Milling attachment and gear cutter to be used in connection with screw-cutting lathe.

Generator (Electric).—Walton Electric Light Co., E. L. Kelly, Mgr., Walton, Ky.—Prices on 25 K. W., 250-volt, 220 R. P. M., D. C. generator, for direct connection through flexible coupling.

Heating Plants.—J. Watts Kearny & Sons, 512 S. Peters St., New Orleans, La.—List of manufacturers of heating systems for residences.

Hospital Equipment.—Blumenauer & Spires, Contrs., Sapulpa, Okla.—Data and prices on mechanical and surgical equipment for \$100,000 hospital.

Knitting Machine.—A. C. V., care of Manufacturers Record, Baltimore, Md.—Data and prices on hand machine for knitting hosiery.

Lathe.—A. U. Newberry, Plymouth, N. C.—Prices on lathe.—See Stave and Heading Machinery, etc.

Lathe, etc.—Elmer Vick, care of Consumers Petroleum Development Co., Huntsville, Ala.—Prices on small lathe suitable for either wood or metal turning; also motor with drill and polisher attachment.

Lead, Tin, etc.—Panama Canal, A. L. Flint, General Purchasing Officer, Washington, D. C.—Bids until Feb. 14 to furnish iron or steel roofing, silica wash, sheet lead, sheet tin, mirrors, wire and copper nails, horseshoe nails, mule shoes, screws, nuts, turnbuckles, copper wire, expansion bolt shells, solid rubber tires, automobile bells, saddle pads and covers, typewriter ribbons, rubber erasers, paper, pressboard, wooden and wicker household furniture and mattress hair; blanks, etc., relating to circular (No. 1199) obtainable at this office or offices Asst. Purchasing Agents, 21 State St., New York; 606 Common St., New Orleans, and Fort Mason, San Francisco; also from United States Engr. offices in principal cities throughout United States.

Leather Novelties.—H. W. Cardwell Construction Co., Box 1223, Port Arthur, Tex.—Names and addresses of manufacturers of small leather novelties, such as folding bill-books.

Locomotive (Kerosene).—Pine Dell Plantation, J. P. Christensen, Engr., Williamson, Va.—Prices on kerosene locomotive.

Locomotives.—Lock Box 41, Phillipsburg, N. J.—30 and 36-ing gauge saddle-tank locomotive; second-hand.

Manufacturers.—Felix Laborde, 3 Rue des Dechargeurs, Paris, France.—To represent manufacturers for sales in France and Algeria.

Milling Machine.—See Gear Cutter.—Stanton Foundry & Machinery Co.

Mining Machinery (Fluorspar).—Thos. N. Hazell (for Phelps & Hazell), care of Department Public Properties, Paducah, Ky.—Mining machinery; sink deep shaft in Crittenden County.

Motors (Electric).—Garman Wheel Co., Oxford, N. C.—Two 50 H. P. electric motors.

Motor.—Elmer Vick, care of Consumers Petroleum Development Co., Huntsville, Ala.—Prices on small electric motor with drill and polisher attachment. (See Lathe, etc.)

Motors (Electric).—Anderson Hosiery Mills, C. Gadsden Sayre, Secy., Anderson, S. C.—Equipment for electric drive in hosiery mill.

Needles (Knitting).—Paul R. Whitney, care of Montgomery French Dry Cleaning Co., 119 S. Court St., Montgomery, Ala.—Addresses of knitting needle manufacturers.

Oil Expellers.—H. J. White, Chemical Engr., 220 Broadway, New York.—2 or 3 oil expellers; second-hand, in good condition.

Paving.—City of Selma, Ala., W. O. Crisman, City Engr.—Bids until Feb. 14 to construct 2000 ft. concrete curb and 12,000 sq. yds. concrete sidewalks on Alabama, Lamar and Selma Aves.; plans and specifications on file with City Engr.

Paving.—City of El Paso, Tex., J. F. Dawson, City Clerk.—Bids until Feb. 7 to construct pavement on sections of Arizona, Laurel and Birch Sts.; specifications on file with City Engr.; Chas. Davis, Mayor.

Paving.—City of Martinsburg, W. Va., T. W. Sparrow, Commr. of Streets, Martinsburg, W. Va.—Bids until March 1 to construct 17,489 sq. yds. brick paving, 7972 sq. yds. asphalt-macadam and 9530 lin. ft. concrete curbing on King, Queen and Martin Sts. and Virginia Ave.; include excavation, etc.; plans and specifications on file.

Piping.—See Well-drilling Equipment.—Maple Oil & Gas Co.

Planer.—See Woodworking (Box Shook) Machinery.—Decatur Box & Basket Co.

Pump (Centrifugal).—Rosenthal, Brown Co., Eunice, La.—Prices on second-hand, 48-in. discharge centrifugal pump.

Pumps.—Bagley Oil & Gas Co., C. H. Dexter, Beggs, Okla.—Prices on pumps.

Rails.—Pine Dell Plantation, J. P. Christensen, Engr., Williamson, Va.—Prices on second-hand 35-lb. rail.

Rails.—Lock Box 41, Phillipsburg, N. J.—40 tons 45 to 50-lb. rails; second-hand.

Road Construction.—Morgan County Commissioners, Decatur, Ala.—Bids until Feb. 4 to surface with stone and slag, and other work incidental thereto, North and South State Highway, being part of State Trunk Rd. No. 1 between Albany and Hartselle; 9.17 mi., 5659 cu. yds. stone surfacing, 9830 cu. yds. slag surfacing, 2707 cu. yds. excavation, 20 lin. ft. 24-in. D. S. vitrified pipe and 8.17 mi. machine dressing; plans and specifications on file with State Highway Dept., W. S. Keller, State Highway Engr., Montgomery, and with Probate Judge, Court-house, Decatur; additional information from State Highway Engr.

Roofing.—Walter G. Shadday, Athens, Tex.—Prices and samples on roofing.

Roofing (Iron or Steel).—See Lead, Sheet Tin, etc.—Panama Canal.

Shingle Mill.—The Males Co., Cincinnati, O.—Second-hand mill for daily capacity 50,000 to 60,000 shingles.

Steel Buildings.—Clark Metal & Ore Co.,

Industrial Dept., 421 Park Bldg., Pittsburgh, Pa.—Steel buildings; aggregate of 50,000 to 75,000 sq. ft.; height to plates 12 to 24 ft.; state total tonnage and location; also price of buildings taken down, wire scrapped, painted and placed on cars.

Steel Trusses.—East Carolina Ry., Tarboro, N. C.—28 70-ft. roof trusses; blueprints and specifications on request.

Shingle Machinery.—See Stave and Heading Machinery, etc.—A. U. Newberry.

Shovel (Steam).—Lock Box 41, Phillipsburg, N. J.—45-ton standard-gauge steam shovel; second-hand.

Shovels (Steam).—John G. Duncan Co., 308 W. Jackson Ave., Knoxville, Tenn.—Dealers' prices on second-hand steam shovels (They preferred), ¾ to 1¼ yd. capacity.

Stave and Heading Machinery, etc.—A. U. Newberry, Plymouth, N. C.—Data and prices on lathe and all machinery for manufacturing heading and staves, shingles, etc.

Surgical Instruments.—Blumenauer & Spires, Contrs., Sapulpa, Okla.—Data and prices on surgical equipment.—See Hospital Equipment.

Tank (Oil Storage).—Walton Electric Light Co., E. L. Kelly, Mgr., Walton, Ky.—Prices on 10,000-gal. horizontal oil-storage tank, between 6 and 8-ft. diam., 3/16-in. shell, ¼-in. heads.

Tanks.—Bagley Oil & Gas Co., C. H. Dexter, Beggs, Okla.—Prices on tanks.

Tires (Rubber).—See Lead, Tin, etc.—Panama Canal.

Waterway Improvements.—Commrs. Lake Worth Inlet Dist., E. E. Geer, Secy., Room 11, Postoffice Bldg., West Palm Beach, Fla.—Bids until March 5 to build inlet cut, approach channel and turning basin (inside work); outside approach channel and certain jetties, all as Contract 1, and for construction of creosoted wood wharf and creosoted wood bulkhead, Contract 2; Contract 1 involves 248,683 cu. yds. earth, 39,830 cu. yds. rock, 5246 cu. yds. jetty heaving and 3368 tons jetty capping; Contract 2 involves 780 front ft. creosoted dock and 1200 front ft. creosoted bulkhead; specifications and plans may be seen at office Secy. or obtained from Isham Randolph & Co., Chief Engrs., Barnett Bldg., Jacksonville, Fla.; charge of \$1.50 for plans, Contract 1, and \$2.50, Contract 2; no refund. (Bids previously noted for earlier date.)

Well-drilling Equipment.—Maple Oil & Gas Co., G. O. Caldwell, Secy.-Treas., M. & P. Bank Bldg., Sherman, Tex.—Prices on 10, 8 and 6-in. casing; also drilling rigs and tools.

Woodworking Machinery.—See Box-factory Equipment.—C. D. Riggan.

Woodworking Machinery.—Shandon Lumber & Mfg. Co., P. L. Skanes, Pres.-Mgr., Shandon, Columbia, S. C.—Prices on woodworking machinery.

Woodcutting and Splitting Machine.—Anderson Lumber Corp., Marion, S. C.—Data and prices on gasoline woodcutting and splitting machine.

Woodworking Machinery.—See Stave and Heading Machinery, etc.—A. U. Newberry.

Woodworking (Box Shook) Machinery.—Decatur Box & Basket Co., Decatur, Ala.—Prices on 30-in. self-feed box-shook gang ripper, Hall & Brown preferred; 24-in. box shook or heading planer; new or second-hand, good condition; immediate delivery.

RAILROAD CONSTRUCTION

RAILWAYS

Ala., Birmingham.—Alabama Interurban Railway Co. is to be incorporated with \$2,500,000 of 8 per cent. preferred and \$2,500,000 of common stock to build the projected interurban railway from Birmingham to the Warrior River, about 21 mi. G. R. Harsh is Gen. Counsel. Other directors include Thomas L. Cannon, Roy McCullough, Job Going, B. M. Allen, H. M. Gassman, Arnold Massberg, Robert N. Bell, O. P. Board, J. W. Gwin, T. A. Weller, W. J. Long, John T. Hagerty, James T. Hill, J. B. Fellheimer and D. W. Foley. About 80 per cent. of the right of way is reported obtained.

Ala., Sylacauga.—Empire Railroad Co. has filed incorporation papers to build proposed line from Sylacauga to Marble Valley, 15 mi. Incorporators: W. C. Lancaster, Pres.; W. L. Legg, V.-P.; W. J. Rowland, Secy.

Oklahoma, Tulsa.—Clarence B. Douglas, general secretary Chamber of Commerce, says the plan to build a railroad from Tulsa northward to Oologah, about 25 mi., is still in a formative stage, but it is hoped to work it out this year.

Tex., Pecos.—Standard Sulphur Corp. is reported surveying to build a railroad from Oria to its mines. A. Tinnally, 1209 Majestic Bldg., Detroit, Mich., is Pres.

Va., Williamsburg.—Pine Dell Plantation of Williamsburg is building a standard-gauge railroad 5 mi. long. J. P. Christensen is Engr. in charge.

W. Va., Charleston.—Davis Creek & Spring Hill Railway Co., lately chartered to build from near Spring Hill to the middle fork of Davis Creek, says that its line is completed. R. N. Snyder and others incorporators.

W. Va., Fairmont.—Directors of Monongahela Valley Traction Co. have approved \$300,000 1-year notes, proceeds to be used for improvements, including much new construction. J. O. Watson is Pres.

STREET RAILWAYS

Ga., Macon.—Macon Railway & Light Co. proposes to extend the Bellevue line to the Union Terminal Station. L. A. Magraw is Gen. Mgr.

Capital and Surplus
\$4,000,000



Total Resources
\$38,000,000

The Largest National Bank in the South

Liberal Accommodations to Manufacturing Corporations

**MERCHANTS-MECHANICS
FIRST NATIONAL BANK
OF BALTIMORE**

The National Exchange Bank OF BALTIMORE, MD.

Hopkins Place, German and Liberty Sts.
Capital \$1,500,000.
March 30, 1915, Surplus and Profits, \$850,000.00

OFFICERS.
WALDO NEWCOMER, President.
SUMNERFIELD BALDWIN, Vice-Pres.
CLINTON G. MORGAN, Cashier.
JOSEPH W. LEFFLER, Asst. Cashier.
WILLIAM R. WEBB, Asst. Cashier.
Accounts of Mercantile Firms, Corporations, Banks, Bankers and Individuals Invited

Maryland Trust Company

BALTIMORE

Capital \$1,000,000

TRANSACTS A GENERAL TRUST AND
BANKING BUSINESS

Correspondence and Interviews
Invited

The Palmetto National Bank

OF COLUMBIA

CAPITAL \$500,000.00
Surplus and Undivided Profits \$250,000.00
COLUMBIA, S. C.

WE BUY BONDS CITY, COUNTY, SCHOOL and DISTRICT

Correspondence Invited from Officials and Contractors

SIDNEY SPITZER & CO.

New York Chicago Toledo
Cincinnati Los Angeles

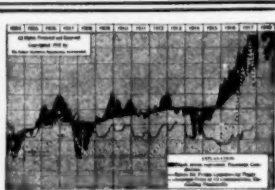
Southern Branch: BELL BUILDING, MONTGOMERY ALA.

Incorporate Under DELAWARE LAWS

Complete information on application.

Delaware Registration Trust Co.

900 Market St. Wilmington, Del.
J. Ernest Smith, President and General Counsel.
Chas. Warner Smith, Vice-President.
Harry W. Davis, Secretary and Treasurer.
Charles B. Bishop, Assistant Secretary.



Will Prices go Still Higher?

Prices for raw materials are as uncertain as how long the war will last. Babson Report will give you advance information on their trend—guide you straight when it comes to buying.

Avoid worry. Cease depending on rumors or luck. Recognize that all action is followed by equal reaction. Work with a definite policy based on fundamental statistics.

Particulars sent free. Write to Dept. B-14, of
**Babson's
Statistical Organization**
Compiling Block Wellesley Hills, Mass.
Largest Organization of its Character in the World

Philadelphia Detroit Dallas New Orleans

Powell, Garard & Co.

39 South LaSalle St.
Chicago

We buy Southern Municipal Bonds
(County, City, School, Road and Drainage District.)

JOHN NUVEEN & CO.

First National Bank Building, CHICAGO

We purchase SCHOOL, COUNTY and MUNICIPAL BONDS. Southern Municipal Bonds a Specialty.

Write us if you have bonds for sale.

First National Bank

RICHMOND, VIRGINIA

Capital and Surplus - - - - \$3,000,00

JNO. B. PURCELL, President.

JNO. M. MILLER, JR., Vice-Pres.

W. M. ADDISON, Cashier.

THE BANK OF ALABAMA

ENSLEY, ALABAMA

R. A. TERRELL - President
J. W. MINOR - Vice-President
FOSTER HAMILTON Cashier

We Solicit Your Business

FINANCIAL NEWS

The MANUFACTURERS RECORD invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

FINANCIAL CORPORATIONS

Ala., Mobile.—A report from Montgomery says that charter has not yet been granted to the Farmers & Mechanics' Bank of Mobile, previously reported inceptd.; capital stock \$100,000.

Ala., Pell City.—Union State Bank of Pell City, capital \$25,000, is inceptd. by McLane Tilton, Jr., Pickens Pearson, Sumter Cogswell, T. H. Rennie and R. A. Martin.

Ark., Lonoke.—Bank of Lonoke has consolidated with the Bank of Central Arkansas, of which D. R. Boone is Prest., and W. T. Couch, Cashier.

Ark., Doddridge.—State Bank of Doddridge is organized with \$10,000 capital. Henry Field, Prest.; Allen Winham, V.-P.; Carl H. Bigby, Cash.

Fla., Jacksonville.—Provident Investment Co. of Jacksonville is chartered for brokerage and commission business; capital stock \$5000. B. F. Camp is Prest.; A. B. Nobles, V.-P., and R. B. Fox, Secy. and Treas.

Fla., West Palm Beach.—Palm Beach Security Co. has made application for charter; capital \$25,000. M. J. Hoenig, Prest.; George

P. Crandall, V.-P.; A. W. Voegtly, Secy. Treas.

La., Monroe.—Dr. J. L. Adams of Monroe, chairman of the committee on organizing the proposed new bank, is reported saying that it will be a national bank, with \$250,000 capital. E. C. Sagle of Clarks, La., is also interested.

Okla., Henryetta.—Henryetta State Bank, capital \$35,000, is chartered. Incorporators: Roy Hinton, Barclay Morgan and W. H. Sullivan, all of Henryetta.

S. C., Ridge Spring.—Farmers & Merchants' Bank of Ridge Spring is commissioned; capital \$30,000. Petitioners: M. R. Watson, J. H. Watson and J. B. Watkins.

S. C., Ruby.—Farmers' Bank of Ruby is commissioned; capital \$10,000. Petitioners: J. Sidney Smith, John F. Crowley and M. L. Raley.

S. C., Scotia.—Peoples' Bank of Scotia is chartered. Capital \$15,000. F. M. Lykes is Prest.; A. J. De Loach, V.-P., and W. H. De Loach, Cashier.

Tenn., Collinwood.—Reported that Tennessee Valley Iron & Railroad Co., Delmar E. Teed, Chief Engr., will organize a bank.

Tenn., Memphis.—Guaranty Bank & Trust Co. authorized capital \$500,000 is chartered. Incorporators: Arthur S. Buchanan, Ralph L. Jurden, J. C. Rainer, D. H. White, W. J. Pentecost, Chas. Hudson, L. K. Saulsbury, and others.

Tenn., Memphis.—Remedial Loan Society is chartered; capital \$75,000. Incorporators: C. J. Hardy, R. R. Richmire, R. M. Barton and McKinney Barton.

Tex., Ennis.—Ennis Trust Co., capital \$50,000, will apply for charter. E. K. Atwood, Prest.; R. J. Caldwell and R. B. White, Active V.-Ps.; N. J. Reynolds, Homer M. Chapman, P. Freeman, H. R. Davis and John P. Boren, V.-Ps., and Bailey Curd, Secy., Treas. and Mgr.

Tex., Turkey.—First National Bank of Turkey is chartered; capital \$25,000.

Tex., Waco.—Liberty National Bank is chartered; capital \$300,000.

Va., Norfolk.—Commercial Exchange Bank, capital \$100,000, is chartered; Herman L. Page, Prest.; Michael Glennan, Cash. and Secy. The bank is to be located at 121 Bank St.

Va., Penniman.—Penniman National Bank has applied for charter; capital \$25,000.

NEW SECURITIES

Ala., Alexander City.—(Impt. Refdg.).—\$100,000 improvement and \$10,000 municipal refunding reported voted at recent election. Address The Mayor.

Ala., Montgomery.—(Sewer).—Reported that \$150,000 of sewer bonds will be issued about May 1. C. J. Fay is City Clk.

Ark., Newport.—(School).—\$3400 bonds of Tuckerman Special School District, Jackson County, are reported sold. Address County Commrs.

Fla., De Land.—(School).—\$12,000 of Volusia County school bonds are reported voted. C. R. N. Sheppard is Supt. Public Instruction.

Fla., Fort Pierce.—(Street).—\$10,000 of 6 per cent. \$500 denomination bonds, maturing \$1000 annually for 10 years, are to be issued and will be sold at private sale as soon as prepared. No election required. W. R. Jackson is City Clerk.

Fla., Quincy.—(School).—Election may be called on \$30,000 Gadsden County school bonds. Address Supt. Pub. Instruc.

Fla., South Jacksonville.—(Street).—Report that \$35,000 of street bonds were voted is officially denied. There is no such bond issue. Wm. P. Belote is Mayor.

Fla., Tampa.—(Road).—None of the bids received Jan. 29 for the \$75,000 of Hillsborough County road bonds was accepted. J. G. Yeats is Chrmn., and W. P. Culbreath, Clerk County Commrs.

Fla., Wauchula.—(Light).—City Council has taken preliminary steps to issue \$12,000 bonds to buy or build electric-light plant, fund debt, improve road, etc. Address The Mayor.

Ga., Bostwick.—(School).—\$10,000 of school bonds reported voted. Address School Board.

Ga., Jeffersonville.—(Light).—Contemplated to vote on \$15,000 electric-light bonds. Address The Mayor.

Md., Chestertown.—(Fire Truck, Street, etc.).—Election is soon to be held, it is reported, to vote on \$6000 Fire Truck, \$6000 Washington Ave. Imp. and \$2000 Home Guard bonds. Address The Mayor.

Md., Easton.—(Municipal).—Bill has been introduced in Legislature to authorize

Write Us—

when you have any Road, School or Drainage Bonds to sell.

We are in a position to pay attractive prices and to finance issues for contractors or municipalities. Bond Department.

Capital, Surplus and Profits Over Eight Million

**MISSISSIPPI
VALLEY
TRUST
CO.**

SAINT LOUIS



This bank offers a special service to Southern brokers, manufacturers, shippers and banks for the collection of drafts, particularly B/L drafts on Chicago and other Northern points. Please write us for particulars.

We also solicit correspondence and interviews with high-grade Southern concerns regarding a direct Chicago banking connection.

UNION TRUST COMPANY CHICAGO

Capital and Surplus, \$3,000,000.00
Deposits, \$34,000,000.00

Established 1869

Write us about Investment in Birmingham Real Estate.

Jemison Real Estate & Insurance Co.

Real Estate

General Insurance, Loans

211 N. Twentieth St. BIRMINGHAM, ALA.

Lithographer, Engraver and Steel Die Embosser

Stationery Especially Designed for Your Business

Letters are worth more now; have them better.

ROBERTS & SON, Birmingham, Ala.

Stationers and Office Outfitters.

CONTRACTORS AND MANUFACTURERS



We Make Them Promptly.

Headquarters for SEALS, STOCK CERTIFICATES, STENCILS,

STEEL DIES, BRASS SIGNS, ENAMEL PLATES,

MEMORIAL PLATES, CHURCH SEALS and FINE PLATES.

Made on our Premises. Send for Catalogue

THE J. F. W. DORMAN COMPANY

BALTIMORE, MD.

FOR SALE Timber, Coal, Iron, Ranch

Southern States. West Indies. Mexico.

GEO. B. EDWARDS

(Broker)

Tribune Building NEW YORK, N. Y.

Confidential Negotiation. Investigations.

Settlements and Purchases of Property.

D. H. BURGESS & CO.

Exporters Importers

P. O. Box 115 PETERSBURG, VA

Write us your needs in all

lines of business

Easton to issue \$5000 of bonds. Address The Mayor.

Miss. Roseville—(Refunding).—Bids invited for Feb. 4 on \$217,000 of 5 per cent. 5-year Bolivar County refunding bonds. P. B. Woolard is County Clk.

Mo. Bethany—(Road).—Report is confirmed that \$75,000 of Bethany Township, Harrison County, bonds were voted Jan. 15. Nothing further has been done. Address L. N. Brown.

Mo. Osceola—(Road).—A letter to Manufacturers Record says: "No bonds to be issued in St. Clair County." A recent report stated that \$100,000 had been voted. Geo. O. Higgins is County Clk.

Mo. Mexico.—Election will be held in Andrain County on April 5 for \$75,000 of hospital bonds. R. B. Cauthorn is County Clerk.

N. C. Asheville—(Street).—E. H. Rollin & Sons of Boston, Mass., were the successful bidders for the \$127,000 of Asheville street bonds offered Jan. 28, the securities being awarded to them on their bid of 102.281 and interest for 5½ per cent. bonds, the aggregate of bid being \$129,896.87, interest extra to date of delivery; denomination \$1000; date of bonds, Feb. 1, 1918; mature \$7000 annually 1920 to 1936, inclusive, and \$8000 in 1937. There were 15 bids, of which four came too late for consideration. J. L. Conder is City Sec.-Treas.

N. C. Charlotte—(School).—No sale was made Jan. 31 of the \$250,000 of 5 per cent. 30-year \$1000 denomination bonds offered on that date. They will probably be reoffered at 5½. A local report says the Board of School Commissioners will offer for sale at once \$200,000 at 5½ per cent. Jno. Wilson is City Clerk.

N. C. Greensboro—(Funding).—\$50,000 of Greensboro funding bonds, for which bids were received Feb. 2, were awarded to Baker, Watts & Co. of Baltimore at their bid of \$50,131 and interest for 5½ per cents.; maturity, \$5000 annually Jan. 1, 1920 to 1923, and \$9000 annually 1924 to 1928, inclusive; denomination, \$1000 each. W. L. Murray is City Clerk.

N. C. Newbern—(Bridge).—\$150,000 of 5 per cent. 30-year Craven County bonds have been purchased at par by Well, Roth & Co. and Bruce Craven, Trinity.

N. C. Oriental—(Light).—Bids will be received at any time by J. C. Ward, Town Clk., for \$5000 of 20-year bonds.

Okla. Ardmore—(Sewer).—Election ordered for Feb. 7 postponed sixty days. W. R. Roberts is Mayor.

Okla. Chandler—(School).—\$44,000 of bonds School District No. 54, Lincoln County, are voted. Address School Board.

Okla. Chandler—(School).—Election is to be held Feb. 6 to vote on \$54,000 of 5 per cent. \$1000 denomination bonds. Address Jno. F. Snyder, Clerk Board of Education.

Okla. Drumright—(School).—\$235,000 of 5 per cent. 30-year \$1000 denomination bonds were voted Jan. 22, and bids for same will be opened Feb. 10. Address J. H. Perry, Prest. School Board. W. E. Nicodemus is Mayor.

Okla. Pawnee—(Road and Bridge).—Press report that Lagoona Township, Pawnee County, had voted bonds, was error; bonds failed to carry. Jos. D. Soulsby is County Clk.

Port Lavaca—(Road).—No sale was made Jan. 23 of the \$75,000 of 5 per cent. \$1000 denomination bonds offered on that date. F. M. Dudgeon is Judge Calhoun County.

S. C. Greenville—(Water-works).—Contemplated to vote on \$1,000,000 of water-works purchase bonds. Address The Mayor.

Tex. Amarillo—(Light).—Regarding report that election would probably be called to vote on bonds, a letter to the Manufacturers Record says: "Will not have any bond issue for some time." A. D. Armstrong is City Mgr.

Tex. Belton—(Road).—\$1,900,000 of Bell County bonds are reported sold to Bowman & Hall, Austin.

Tex. Brady—(Road).—Comms.' Court has created Road District No. 3, McCulloch County, and election is to be held Feb. 23 to vote on \$25,000 of bonds.

Tex. Colorado—(Road).—Election is to be held in Mitchell County Feb. 23 to vote on \$60,000 of 5 per cent. bonds, maturing \$3000 each year after 6 years. J. H. Bullock is County Judge.

Tex. Gonzales—(Road).—\$75,000 of Gonzales County bonds are voted. Address County Comms.

Tex. Hillsboro—(Water, Sewer).—Preliminary steps have been taken to issue bonds for increasing water supply and installing new sewage-disposal plant. It is hoped

to do this during the present year. Wm. H. Knight is Mayor.

Tex. Jourdan—(Road).—Election is to be held Feb. 16 to vote on \$250,000 of bonds Puget Sound to the Gulf Highway District No. 4, Atascosa County. Address County Comms.

Tex. La Grange—(Road).—The \$100,000 of Road Dist. No. 1, Fayette County, bonds recently voted are 15-30-year 5 per cents. The bonds will probably be issued at the term of the Comms.' Court, Feb. 11. Address J. C. Baumgarten, Schulenburg, Tex. R. Klatt is Clerk, Fayette County.

Tex. Lockhart—(Road).—Bids will be received until 10 A. M. Feb. 15 for the following 5 per cent. 30-year Caldwell County bonds: District No. 1, \$200,000; District No. 3, \$15,000; District No. 6, \$35,000. J. T. Ellis is County Judge.

Tex. Oakville—(Road).—\$70,000 of 5 per cent. 1-20-year serial and optional \$500 denomination bonds have been conditionally sold at par and accrued interest to road contractors. W. W. Caves is County Judge.

Tex. Roby—(Road).—Road District No. 1 of Fisher County has voted and will issue \$100,000 bonds as soon as approved by Atty.-Gen., when bids will be asked. W. M. Hopson is County Judge.

Tex. Seguin—(Road).—\$36,000 of Guadalupe County Dist. bonds are voted. Address County Comms.

Tex. Waco—(Sewer).—\$225,000 of 5 per cent. 30-year \$1000 denomination sewer bonds offered Jan. 24 were bought by the city of Waco. John Dollins is Mayor.

FINANCIAL NOTES

The Virginia Bankers' Association will, it is stated, celebrate its 25th anniversary at the annual convention this year at Old Point Comfort on June 20, 21 and 22. W. M. Addison is president and V. Valden, secretary.

"Eleven Fundamental Factors" is the title of a booklet issued by P. W. Brooks & Company, Inc., 115 Broadway, N. Y., and relating to public service securities. It describes these factors, which, it says, "Combine to place public utility bonds in a strong economic and investment position."

A statement showing the condition of incorporated State banks in Virginia, based on the reports of November 20, 1917, has been issued by the State Corporation Commission. Total resources for 290 banks were \$134,022,237, an increase of \$25,530,375, as compared with November 17, 1916, when there were 283 banks. Total deposits are \$99,789,610; increase, \$21,789,157. Capital stock totals \$14,135,236; surplus fund, \$9,122,303; undivided profits, \$3,651,013.

Book Review.

Aids in the Commercial Analysis of Oils, Fats, and Their Commercial Products. A Laboratory Handbook. By George Fenwick Pickering. London: Charles Griffin & Co., Ltd. Philadelphia: J. B. Lippincott Company.

This book is evidently a complete manual covering the subjects of which it treats. The author says that the methods of analysis presented are given as works methods, and that it must be understood that the chemical methods used in analyzing oils and fats can, owing to their nature, not pretend to a degree of accuracy usually found in inorganic work. As most of the processes employed in the analysis of oils depend on solvents, the results obtained vary with the seasons and several other factors. He admits that in commercial work some processes supposed to be on settled bases produce results which are inexplicable on current theories, and he further remarks that workers are much needed who will consider their results without attempting to bind themselves to preconceived notions. In these conclusions Mr. Pickering utters a true note. Men who will work with open minds are wanted everywhere, and nowhere more than in chemical operations. They are of the class which produces our leaders in all lines of investigation and industry. Much more can be accomplished in the work of the world if those who are doing it will but be observant as well as energetic.

Municipal Bonds Purchased

Correspondence invited from investors wishing to sell their holdings of seasoned marketable Municipal Bonds, and from municipal officials and contractors in connection with entire new issues.

THE NATIONAL CITY COMPANY

55 Wall Street, New York

PHILADELPHIA

BOSTON

TOWNSEND SCOTT & SON

Bankers and Brokers

New Capital for Established Enterprises

We are interested in the financing of sound industrial enterprises throughout the South. Loans made also to public utilities and municipalities

Established 1832

BALTIMORE, MD.

LOANS MADE TO STATES, CITIES, COUNTIES, ETC.

Also Entire Issues of Bonds of Successful Industrials Purchased

Largest Capital and Surplus of Any Financial Institution in Maryland or Any Southern State.

Established 1884

Resources \$21,000,000

MERCANTILE TRUST and DEPOSIT CO. OF BALTIMORE

A. H. S. POST, President

F. G. BOYCE, Jr., Vice-President

Twenty-Five Years' Experience

AUDITORS ACCOUNTANTS COST ACCOUNTING

New York, Louisville, Augusta, St. Louis, Baltimore, Pittsburgh, Cincinnati, Richmond, Chicago, Milwaukee, Columbus, Grand Rapids, Detroit, and West Virginia References.

State Public Service Utility Audit and Investigating Co., Inc.

306-307 Kanawha National Bank

CHARLESTON, WEST VIRGINIA

COUNTY, SCHOOL AND DISTRICT BONDS

The Mercantile Trust Company, Saint Louis, through its Bond Department, is always in the market for County, School and District Bonds. We have the facilities for handling whole issues of County, School and District or Municipal Bonds and all matters pertaining to them. We will be glad to hear from banks or investors who may wish to buy or sell high-grade bonds.

MERCANTILE TRUST CO., ST. LOUIS, MO. Capital and Surplus, \$9,500,000

We Buy City, County School and Drainage BONDS

FROM MUNICIPALITIES OR CONTRACTORS

We are in position to pay HIGHEST PRICES

Write or wire us your offerings

THE NEW FIRST NATIONAL BANK Assets, \$8,000,000 COLUMBUS, O.

W. L. SLAYTON & CO. TOLEDO, OHIO

DEALERS IN

CITY COUNTY TOWNSHIP

BONDS

ROAD SCHOOL DRAINAGE

If you want to Buy or Sell, write for Prices

We solicit your patronage.

PRESCOTT & SNIDER, Kansas City, Mo.

DEALERS IN BONDS

In the market at ALL times for whole issues of High-Class Municipal Bonds, City, County, School, Road and District. Also First Mortgages.

Correspondence invited from Officials and Contractors.

Accident
Health
Automobile
Plate
Glass
Burglary
Liability



Fidelity
Contract
Judicial
Public
Official
Depository
Bonds

Fidelity & Deposit Co. of Maryland
BALTIMORE

BANK AND SAFE DEPOSIT VAULTS AND SAFES

**FIRE
PROOF**

**BURGLAR
PROOF**

YORK SAFE & LOCK COMPANY
YORK, PA. BALTIMORE, MD.

CHARLES L. HEHL, C. P. A., President JOHN KUCHLER, C. P. A., Vice-President
ERNEST E. WOODEN, C. P. A., Sec. and Treas.

BALTIMORE AUDIT COMPANY

901-903 Calvert Building

BALTIMORE, MD

Wm. F. Bockmiller, Pres.

John G. Hullet, Secy.

BALTIMORE OFFICE SUPPLY CO., Inc.

641 COLUMBIA AVE., BALTIMORE, MD.

Manufacturers of

Steel Die Embossed Stationery

Write for Samples and Prices

THE GRUNEWALD

THEO. GRUNEWALD, Proprietor



**New, Modern
Best Equipped and Finest
Hotel in the South**

Cost Over \$2,000,000

400 Rooms European Plan

RATES:

**\$1.00 and Upwards. With Bath,
\$2.50 and Upwards.**

NEW ORLEANS

INDUSTRIAL NEWS OF INTEREST

Now Represented in California.

Nagle Corliss Engine Works, Erie, Pa., builders of air compressors and vacuum pumps, have secured representation in San Francisco, Cal., with the Vincent Whitney Company, 802-806 Hearst Bldg., in order to serve their rapidly growing business on the Pacific Coast by direct representatives.

Commercial Secretary Wanted.

Through its president, B. S. Woodhead, the Chamber of Commerce, Beaumont, Texas, announces that it desires to employ a commercial secretary. It is preferred that applicants for the position be from the West or Southwest and that they have had experience in such work as the office demands.

Wagon Works to Sell Out.

Announcement is made that the Henderson Wagon Works, Henderson, Ky., has decided to liquidate its business and that it will offer for sale at auction Wednesday, February 13, the machinery at its plant, and the next day its stock of wagon material and lumber will also be put up for sale.

Iron Work Purchase.

The Tallahassee Iron Works, Inc., Tallahassee, Fla., announces that R. O. Collins, who has successfully managed the business for the last eight years, has purchased the entire property, including all accounts, and will take the necessary legal steps to dissolve the corporation. He will, it is further stated, continue the business under the same efficient and conservative policy as heretofore, and will assume all liabilities.

Fire Did Not Stop Them.

The Driver-Harris Company, Harrison, N. J., which on January 31 suffered a loss by fire of its insulated wire and electrical cord departments (these buildings being completely destroyed), announces that its business in the production of resistance materials, castings, cold rolled strip, nickel sheet and other products is not in the least interfered with and business continues as usual.

Branch Office Established.

Walter A. Zelnicker Supply Co., with headquarters at St. Louis, has just established offices at 627 Plymouth Bldg., Minneapolis, Minn., to serve the North Central and the Canadian trade. Richard K. Papin, formerly St. Louis and Southwestern representative of the Davenport Locomotive Works, and for ten years manager of the Zelnicker Company's equipment department, is in charge.

Sale of Veneer Plant.

Announcement is made that the plant of the Knoxville Veneer Co. will be offered for sale at auction at 10 A. M. February 25, the sale including land, buildings, machinery and other equipment. The site is two acres of land in the Lonsdale addition to Knoxville, and between the tracks of the Southern Railway and the Louisville & Nashville Railroad, with private siding from each. E. R. Oates, trustee in bankruptcy, Knoxville, Tenn., is in charge.

Grinder for Drill Shanks, Etc.

The Ingersoll-Rand Company has brought out a new pedestal grinder called the "Little David," which is operated by compressed air and which the company says insures the proper squaring off of drill shanks, the truing of drill bit edges, and the grinding of other tools around blacksmith shops. Giving adequate attention to the forming of bits and shanks on rock drill steels is in large measure responsible for attaining better results from drilling machines. Imperfectly made shanks, that is those which are not really square on the ends, throw a strain on the hammer drill piston and are a cause of piston breakage, which results expensively, both as to cost of repairs and loss of time while the drill is out of commission.

Goods Which "Uncle Sam" Wants.

The Mercantile Trust Co. of St. Louis has issued a little pamphlet called "Opportunities to Make War Goods for the U. S. Government." It says: "A manufacturer who is making a non-essential product should read

just his plant and produce a Government necessity. * * * A St. Louis concern is now making army clothing that formerly manufactured silk shirts. Another concern that made beds now makes hospital furniture; a sash and door company is manufacturing aeroplanes. * * * There should be no curtailment in this country of business volume, but business should be directed to produce that which is most needed." Following these and other words of the preface is a long list of goods which the Government is buying, together with directions about selling to it.

Improved Concrete Cart.

An improved type of cart for contractors doing concrete work is now being made by the American Cement Machine Co., Keokuk, Iowa. It is known as the Boss concrete cart, and it is claimed to be unusually light running and strong. It is equipped with Hyatt roller bearings and wheels 36 inches high. These features, it is stated, make it run about 25 per cent. easier than an ordinary cart. Moreover, it is perfectly balanced and therefore does not require an expenditure of strength to keep it from tipping. All that the operator has to do is to shove it ahead. The construction of this cart is described as such as to enable it to stand the heaviest, hardest service. It is made of steel throughout, the body being of No. 14 gauge steel, with No. 10 gauge reinforcements; the axle is of 1½ inch cold rolled steel and the wheels are also of steel, with 2½ inch tires. The total weight of the cart is only 240 pounds. Its capacity is 6½ feet of wet material, but it seems strong enough to carry twice that amount.

A Chemical Company Reorganizes.

Jacques Wolf & Co., manufacturers of chemical specialties used in the woolen, cotton and silk industries for dyeing, finishing and printing, was recently reorganized with the election of Dr. Alfred Püster, president and treasurer; Andrew Martin, vice-president, and S. E. Tylee, Jr., secretary and assistant treasurer. This company, which is one of the largest of its kind in the country, makes a complete series of all sulphated oils, turkey-red oils, softeners, sizings, mordants and some dyestuffs. Their special products are sold under the brand names of Monopole oil, Bensapol and Bolt-Off oil. In the dyestuff line the company is a large manufacturer of alizarine yellows, which are especially in demand at this time for dyeing khaki shades or for army cloth. The company's business in the South has grown so steadily that last summer a branch office was established in Atlanta, Ga., with R. T. Grant in charge. Its products of especial interest to the Southern cotton mills include Glasgow size, cream tallow and sulphur black. The plant and main office is at Passaic, N. J., with New York branch at 190 William St.

Big Sale of Industrial Property.

A great sale of real estate and manufacturing property which required four days' time to complete began at 10 A. M. Jan. 29 at Waltham, Mass. The American Watch Tool Co., manufacturers of watch tools, had decided to liquidate and retire from business and its entire possessions were sold. The Metz Company, manufacturer of automobiles, also sold a large part of its manufacturing properties preliminary to moving into its new plant. Of the former property there were 1323 catalogued lots and of the latter 569 lots. The sale included 12 parcels of real estate, part of the latest type of mill construction, six having frontage on railroad and seven on electric car line. The amount of machinery was very large, including automatic and semi-automatic bench tools, grinding and cutter equipments, floor machine tools, new lathe attachments and equipment, punches and presses, hydraulic and hand tufting presses, electric motors, gas producing equipments, etc. The sale was conducted by J. E. Conant & Co., auctioneers of Lowell, Mass., and it realized \$68,975 for the Watch Tool properties. The gross of the four days' sale was over \$177,000, the excess over the preceding figures being for the Metz properties. The attendance included purchasers from England and Canada as well as from this country.

MURPHY'S HOTEL

Richmond, Va.

Virginia's largest and Richmond's most centrally located Hotel.

Every car line in the City passes Murphy's.

Rooms single and en suite Railroad tickets sold and baggage checked at Hotel. Main Hotel and Grace Street Annex fireproof. **Rates \$1.00 and Up**

JAMES T. DISNEY, Manager